# Alter Table Commands

```
+------+---------+----------+-----------+--------+-------------+
| ID   | Dept_ID | Name     | City      | Salary | Departement |
+------+---------+----------+-----------+--------+-------------+
|    1 |    1014 | Hitendra | Rajasthan |  63800 | CCVT        |
|    2 |    1015 | Rakesh   | Rajasthan |  31901 | CSF         |
|    3 |    1016 | Suresh   | Delhi     |  37400 | IOT         |
|    4 |    1017 | A        | Raj       |  11000 | CCVT        |
|    5 |    1018 | B        | Raj       |  22000 | CSF         |
|    6 |    1019 | C        | Delhi     |  11000 | CCVT        |
|    7 |    1020 | D        | MP        |  33000 | IT          |
|    8 |    1021 | E        | UP        |  44000 | MRKT        |
|    9 |    1022 | F        | Gujart    |  11000 | IT          |
+------+---------+----------+-----------+--------+-------------+
9 rows in set (0.01 sec)
```

## 1) Alter ()

### a) Add column

```
mysql> alter table employee
    -> add(Location varchar(20) DEFAULT "INDIA");
```

### b) Add multiple column

```
mysql> alter table employee
    -> add(Location1 varchar(20) DEFAULT "INDIA", Location2 varchar(20) DEFAULT "US");
+------+---------+----------+-----------+--------+-------------+----------+-----------+-----------+
| ID   | Dept_ID | Name     | City      | Salary | Departement | Location | Location1 | Location2 |
+------+---------+----------+-----------+--------+-------------+----------+-----------+-----------+
|    1 |    1014 | Hitendra | Rajasthan |  63800 | CCVT        | INDIA    | INDIA     | US        |
|    2 |    1015 | Rakesh   | Rajasthan |  31901 | CSF         | INDIA    | INDIA     | US        |
|    3 |    1016 | Suresh   | Delhi     |  37400 | IOT         | INDIA    | INDIA     | US        |
|    4 |    1017 | A        | Raj       |  11000 | CCVT        | INDIA    | INDIA     | US        |
|    5 |    1018 | B        | Raj       |  22000 | CSF         | INDIA    | INDIA     | US        |
|    6 |    1019 | C        | Delhi     |  11000 | CCVT        | INDIA    | INDIA     | US        |
|    7 |    1020 | D        | MP        |  33000 | IT          | INDIA    | INDIA     | US        |
|    8 |    1021 | E        | UP        |  44000 | MRKT        | INDIA    | INDIA     | US        |
|    9 |    1022 | F        | Gujart    |  11000 | IT          | INDIA    | INDIA     | US        |
+------+---------+----------+-----------+--------+-------------+----------+-----------+-----------+
```

### c) remove column

```
mysql> alter table employee
    -> drop column Location2;
+------+---------+----------+-----------+--------+-------------+----------+-----------+
| ID   | Dept_ID | Name     | City      | Salary | Departement | Location | Location1 |
+------+---------+----------+-----------+--------+-------------+----------+-----------+
|    1 |    1014 | Hitendra | Rajasthan |  63800 | CCVT        | INDIA    | INDIA     |
|    2 |    1015 | Rakesh   | Rajasthan |  31901 | CSF         | INDIA    | INDIA     |
|    3 |    1016 | Suresh   | Delhi     |  37400 | IOT         | INDIA    | INDIA     |
|    4 |    1017 | A        | Raj       |  11000 | CCVT        | INDIA    | INDIA     |
|    5 |    1018 | B        | Raj       |  22000 | CSF         | INDIA    | INDIA     |
|    6 |    1019 | C        | Delhi     |  11000 | CCVT        | INDIA    | INDIA     |
|    7 |    1020 | D        | MP        |  33000 | IT          | INDIA    | INDIA     |
|    8 |    1021 | E        | UP        |  44000 | MRKT        | INDIA    | INDIA     |
|    9 |    1022 | F        | Gujart    |  11000 | IT          | INDIA    | INDIA     |
+------+---------+----------+-----------+--------+-------------+----------+-----------+
```

# Alter Table Commands

### d) remove multiple column

```
mysql> alter table employee
    -> drop column Location,
    -> drop column Location1;
+------+---------+----------+-----------+--------+------------+
| ID   | Dept_ID | Name     | City      | Salary | Departement |
+------+---------+----------+-----------+--------+------------+
|    1 |    1014 | Hitendra | Rajasthan |  63800 | CCVT       |
|    2 |    1015 | Rakesh   | Rajasthan |  31901 | CSF        |
|    3 |    1016 | Suresh   | Delhi     |  37400 | IOT        |
|    4 |    1017 | A        | Raj       |  11000 | CCVT       |
|    5 |    1018 | B        | Raj       |  22000 | CSF        |
|    6 |    1019 | C        | Delhi     |  11000 | CCVT       |
|    7 |    1020 | D        | MP        |  33000 | IT         |
|    8 |    1021 | E        | UP        |  44000 | MRKT       |
|    9 |    1022 | F        | Gujart    |  11000 | IT         |
+------+---------+----------+-----------+--------+------------+
```

### e) Modify datatype

```
mysql> alter table employee
    -> MODIFY ID int;
```

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| ID          | varchar(100)| YES  |     | NULL    |       |
| Dept_ID     | int         | YES  |     | NULL    |       |
| Name        | varchar(20) | YES  |     | NULL    |       |
| City        | varchar(10) | YES  |     | NULL    |       |
| Salary      | int         | YES  |     | NULL    |       |
| Departement | varchar(20) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

```
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| ID          | int         | YES  |     | NULL    |       |
| Dept_ID     | int         | YES  |     | NULL    |       |
| Name        | varchar(20) | YES  |     | NULL    |       |
| City        | varchar(10) | YES  |     | NULL    |       |
| Salary      | int         | YES  |     | NULL    |       |
| Departement | varchar(20) | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

### f) Modify Multiple datatypes
```
mysql> alter table employee
    -> MODIFY ID varchar(20),
    -> MODIFY Dept_ID varchar(100);
```

### G) Modify Multiple col's datatype length
```
mysql> alter table employee
    -> MODIFY Name varchar(100),
    -> MODIFY City varchar(50);
```

# Alter Table Commands

**Add constraints -------------→ Primary Key**

**ALTER TABLE table_name**
**ADD CONSTRAINT MyPrimaryKey PRIMARY KEY (column1, column2...);**

```
mysql> alter table employee
    -> ADD CONSTRAINT PK_ID PRIMARY KEY (ID);
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ID          | int          | NO   | PRI | NULL    |       |
| Dept_ID     | int          | YES  |     | NULL    |       |
| Name        | varchar(100) | YES  |     | NULL    |       |
| City        | varchar(50)  | YES  |     | NULL    |       |
| Salary      | int          | YES  |     | NULL    |       |
| Departement | varchar(20)  | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
```

**Add Constraint  -----------→ Check Constraint**

**ALTER TABLE table_name**
**ADD CONSTRAINT MyUniqueConstraint CHECK (CONDITION);**

```
mysql> alter table employee
    -> Add Constraint C_Salary Check(Salary  > 10000);
```

**Add Constraint -----------→ Unique Constraint**

**ALTER TABLE table_name**
**ADD CONSTRAINT MyUniqueConstraint UNIQUE(column1, column2...);**

```
ALTER TABLE Persons
ADD UNIQUE (ID);
```

**Add Constraint ---------→ Not NULL constraint**

**ALTER TABLE table_name MODIFY column_name datatype NOT NULL;**

```
mysql> alter table employee
    -> MODIFY Dept_ID int NOT NULL;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ID          | varchar(20)  | NO   | PRI | NULL    |       |
| Dept_ID     | int          | NO   |     | NULL    |       |
| Name        | varchar(100) | YES  |     | NULL    |       |
| City        | varchar(50)  | YES  |     | NULL    |       |
| Salary      | int          | YES  |     | NULL    |       |
| Departement | varchar(20)  | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
```

**Add Constraint ----------→ Default constraint**

```
mysql> alter table employee
    -> MODIFY Salary int DEFAULT 100000;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ID          | varchar(20)  | NO   | PRI | NULL    |       |
| Dept_ID     | int          | NO   |     | NULL    |       |
| Name        | varchar(100) | YES  |     | NULL    |       |
| City        | varchar(50)  | YES  |     | NULL    |       |
| Salary      | int          | YES  |     | 100000  |       |
| Departement | varchar(20)  | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
```

# Alter Table Commands

**Add Constraint ----------→ Foregin Key**

```
ALTER TABLE Orders
ADD CONSTRAINT FK_PersonOrder
FOREIGN KEY (PersonID) REFERENCES Persons(PersonID);
```

**Drop Constraint -----------→ Primary Key**

```
mysql> alter table employee
    -> drop PRIMARY KEY;
```

| Field      | Type         | Null | Key | Default | Extra |
|------------|--------------|------|-----|---------|-------|
| ID         | varchar(20)  | NO   | PRI | NULL    |       |
| Dept_ID    | int          | NO   |     | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| City       | varchar(50)  | YES  |     | NULL    |       |
| Salary     | int          | YES  |     | 100000  |       |
| Departement| varchar(20)  | YES  |     | NULL    |       |

| Field      | Type         | Null | Key | Default | Extra |
|------------|--------------|------|-----|---------|-------|
| ID         | varchar(20)  | NO   |     | NULL    |       |
| Dept_ID    | int          | NO   |     | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| City       | varchar(50)  | YES  |     | NULL    |       |
| Salary     | int          | YES  |     | 100000  |       |
| Departement| varchar(20)  | YES  |     | NULL    |       |

**Drop Constraint -------→ check**

```
mysql> alter table employee
    -> drop check C_Salary;
```

**Drop Constraint ------→ Not NULL, Default**

```
mysql> alter table employee
    -> MODIFY salary int NULL;
```

| Field      | Type         | Null | Key | Default | Extra |
|------------|--------------|------|-----|---------|-------|
| ID         | int          | YES  |     | NULL    |       |
| Dept_ID    | int          | YES  |     | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| City       | varchar(50)  | YES  |     | NULL    |       |
| salary     | int          | NO   |     | NULL    |       |
| Departement| varchar(20)  | YES  |     | NULL    |       |

| Field      | Type         | Null | Key | Default | Extra |
|------------|--------------|------|-----|---------|-------|
| ID         | int          | YES  |     | NULL    |       |
| Dept_ID    | int          | YES  |     | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| City       | varchar(50)  | YES  |     | NULL    |       |
| salary     | int          | YES  |     | NULL    |       |
| Departement| varchar(20)  | YES  |     | NULL    |       |

# Alter Table Commands

**Rename columns**

```
mysql> alter table employee
    -> rename column Departement to Department;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| ID         | int          | NO   | PRI | NULL    |       |
| Dept_ID    | int          | YES  |     | NULL    |       |
| Name       | varchar(100) | YES  |     | NULL    |       |
| City       | varchar(50)  | YES  |     | NULL    |       |
| Salary     | int          | YES  |     | NULL    |       |
| Department | varchar(20)  | YES  |     | NULL    |       |
+------------+--------------+------+-----+---------+-------+
```

**Rename table name**

```
mysql> alter table employee
    -> rename to employees;
```