

SQL BASICS

```
mysql> create table EMPLOYEE (
-> EMPNO INT PRIMARY KEY,
-> ENAME VARCHAR(20),
-> JOB VARCHAR(20),
-> MGR INT,
-> DOB DATE,
-> SAL INT,
-> COMM INT,
-> DEPTNO INT
-> );
Query OK, 0 rows affected (0.12 sec)
```

```
mysql> DESC EMPLOYEE;
```

| Field | Type | Null | Key | Default | Extra |
|--------|-------------|------|-----|---------|-------|
| EMPNO | int | NO | PRI | NULL | |
| ENAME | varchar(20) | YES | | NULL | |
| JOB | varchar(20) | YES | | NULL | |
| MGR | int | YES | | NULL | |
| DOB | date | YES | | NULL | |
| SAL | int | YES | | NULL | |
| COMM | int | YES | | NULL | |
| DEPTNO | int | YES | | NULL | |

8 rows in set (0.16 sec)

```
mysql> insert into EMPLOYEE values (7839, "King", "Presidne
t", NULL, '1981-09-17', 5000, NULL, 10);
Query OK, 1 row affected (0.09 sec)

mysql> insert into EMPLOYEE values (7698, "Bi
ke", "Manager", 7839, '1981-05-01', 2850, NUL
L, 30);
Query OK, 1 row affected (0.03 sec)

mysql> insert into EMPLOYEE values (7782, "Cl
erk", "Manager", 7839, '1981-06-09', 2450, NU
LL, 10);
Query OK, 1 row affected (0.07 sec)

mysql> insert into EMPLOYEE values (7886, "Ja
nes", "Manager", 7839, '1981-04-02', 2975, NU
LL, 30);
Query OK, 1 row affected (0.02 sec)

mysql> insert into EMPLOYEE values (7654, "Ma
rtin", "Salesman", 7698, '1981-02-20', 1250,
400, 30);
Query OK, 1 row affected (0.05 sec)

mysql> insert into EMPLOYEE values (6499, "Al
len", "Salesman", 7698, '1981-02-08', 1630, N
ULL, 20);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right synta
x to use near '6499, "Allen", "Salesman", 7698, '1981-02-08', 1630, NULL, 20)' at line 1
mysql> insert into EMPLOYEE values (7499, "Al
len", "Salesman", 7698, '1981-02-08, 1638, NU
LL, 20)insert into EMPLOYEE values (7499, "Allen", "Salesman", 7698, '1981-02-08, 1638, NULL, 20);
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right synta
x to use near '1981-02-08, 1638, NULL, 20)' at line 3
mysql>
mysql>
mysql> insert into EMPLOYEE values (7499, "Allen", "Salesman", 7698, '1981-02-08', 1638, NULL, 20);
Query OK, 1 row affected (0.02 sec)

mysql> insert into EMPLOYEE values (7844, "James", "Clerk", 7699, '1981-03-09', 1500, NULL
, 20);
Query OK, 1 row affected (0.01 sec)

mysql> insert into EMPLOYEE values (7900, "Turner", "Clerk", 7699, '1981-03-10', 950, NULL
```

SQL BASICS

```
mysql> insert into EMPLOYEE values (7876, "Adams", "Clerk", 7788, '1981-04-03', 1100, NULL, 10); DESC EMPLOYEE;
```

| Field | Type | Null | Key | Default | Extra |
|--------|-------------|------|-----|---------|-------|
| EMPNO | int | NO | PRI | NULL | |
| ENAME | varchar(20) | YES | | NULL | |
| JOB | varchar(20) | YES | | NULL | |
| MGR | int | YES | | NULL | |
| DOB | date | YES | | NULL | |
| SAL | int | YES | | NULL | |
| COMM | int | YES | | NULL | |
| DEPTNO | int | YES | | NULL | |

8 rows in set (0.07 sec)

```
mysql> select * from EMPLOYEE;
```

| EMPNO | ENAME | JOB | MGR | DOB | SAL | COMM | DEPTNO |
|-------|--------|-----------|------|------------|------|------|--------|
| 1902 | Ward | Analyst | 7566 | 1981-03-12 | 300 | NULL | 20 |
| 7369 | Ford | Clerk | 7902 | 1981-04-01 | 500 | NULL | 10 |
| 7499 | Allen | Salesman | 7698 | 1981-02-08 | 1638 | NULL | 20 |
| 7521 | James | Salesman | 7698 | 1981-03-11 | 1250 | 500 | 10 |
| 7654 | Martin | Salesman | 7698 | 1981-02-20 | 1250 | 400 | 30 |
| 7698 | Bike | Manager | 7839 | 1981-05-01 | 2850 | NULL | 30 |
| 7782 | Clerk | Manager | 7839 | 1981-06-09 | 2450 | NULL | 10 |
| 7839 | King | Presidnet | NULL | 1981-09-17 | 5000 | NULL | 10 |
| 7844 | James | Clerk | 7699 | 1981-03-09 | 1500 | NULL | 20 |
| 7876 | Adams | Clerk | 7788 | 1981-04-03 | 1100 | NULL | 10 |
| 7886 | Janes | Manager | 7839 | 1981-04-02 | 2975 | NULL | 30 |
| 7888 | Scott | Analyst | 7566 | 1981-04-02 | 3000 | NULL | 30 |
| 7900 | Turner | Clerk | 7699 | 1981-03-10 | 950 | NULL | 20 |

13 rows in set (0.01 sec)

SQL BASICS

```
mysql> SELECT EMPNO, SAL FROM EMPLOYEE;
```

| EMPNO | SAL |
|-------|------|
| 1902 | 300 |
| 7369 | 500 |
| 7499 | 1638 |
| 7521 | 1250 |
| 7654 | 1250 |
| 7698 | 2850 |
| 7782 | 2450 |
| 7839 | 5000 |
| 7844 | 1500 |
| 7876 | 1100 |
| 7886 | 2975 |
| 7888 | 3000 |
| 7900 | 950 |

13 rows in set (0.00 sec)

```
mysql> SELET DEPTNO, ENAME, SAL FROM EMPLOYEE  
WHERE EMPNO = 7844;
```

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'SELET DEPTNO, ENAME, SAL FROM EMPLOYEE WHERE EMPNO = 7844' at line 1

```
mysql>
```

```
mysql> SELECT DEPTNO, ENAME, SAL FROM EMPLOYEE  
E WHERE EMPNO = 7844;
```

| DEPTNO | ENAME | SAL |
|--------|-------|------|
| 20 | James | 1500 |

1 row in set (0.01 sec)

```
mysql> SELECT DEPTNO, SAL, JOB FROM EMPLOYEE  
WHERE ENAME = 'JAMES';
```

| DEPTNO | SAL | JOB |
|--------|------|----------|
| 10 | 1250 | Salesman |
| 20 | 1500 | Clerk |

2 rows in set (0.01 sec)

SQL BASICS

```
mysql> Delete from employee WHERE MGR = 7566;
```

```
Query OK, 2 rows affected (0.04 sec)
```

```
mysql> Alter table employee modify ENAME Varc  
har(30);
```

```
Query OK, 0 rows affected (0.10 sec)
```

```
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> Describe EMPLOYEE;
```

| Field | Type | Null | Key | Default | Extra |
|--------|-------------|------|-----|---------|-------|
| EMPNO | int | NO | PRI | NULL | |
| ENAME | varchar(30) | YES | | NULL | |
| JOB | varchar(20) | YES | | NULL | |
| MGR | int | YES | | NULL | |
| DOB | date | YES | | NULL | |
| SAL | int | YES | | NULL | |
| COMM | int | YES | | NULL | |
| DEPTNO | int | YES | | NULL | |

```
8 rows in set (0.01 sec)
```

```
mysql> UPDATE EMPLOYEE SET COMM = 100 Where j  
ob = 'SALESMAN';
```

```
ERROR 1292 (22007): Truncated incorrect DOUBLE value: 'Clerk'
```

```
mysql> update EMPLOYEE Set COMM = 100 where j  
ob = 'Salesman';
```

```
Query OK, 3 rows affected (0.01 sec)
```

```
Rows matched: 3 Changed: 3 Warnings: 0
```

```
mysql> Select * from EMPLOYEE where Job = 'Sa  
lesman';
```

| EMPNO | ENAME | JOB | MGR | DOB | SAL | COMM | DEPTNO |
|-------|--------|----------|------|------------|------|------|--------|
| 7499 | Allen | Salesman | 7698 | 1981-02-08 | 1638 | 100 | 20 |
| 7521 | James | Salesman | 7698 | 1981-03-11 | 1250 | 100 | 10 |
| 7654 | Martin | Salesman | 7698 | 1981-02-20 | 1250 | 100 | 30 |

```
3 rows in set (0.01 sec)
```

SQL BASICS

```
mysql> select a.empno, a.job, a.sal, a.deptno, b.program, c.sname from emp a, dept b, school c
-> where a.deptno = b.deptno and b.schoolid = c.school;
```

| empno | job | sal | deptno | program | sname |
|-------|-----------|------|--------|---------|-------|
| 7369 | Clerk | 500 | 10 | BMI | SHP |
| 7499 | Salesman | 1630 | 20 | PT | SHP |
| 7521 | Salesman | 1250 | 10 | BMI | SHP |
| 7654 | Salesman | 1250 | 30 | Dentist | RBHS |
| 7698 | Manager | 2850 | 30 | Dentist | RBHS |
| 7782 | Manager | 2450 | 10 | BMI | SHP |
| 7839 | Presidnet | 5000 | 10 | BMI | SHP |
| 7844 | Clerk | 1500 | 20 | PT | SHP |
| 7876 | Clerk | 1100 | 10 | BMI | SHP |
| 7886 | Manager | 2975 | 30 | Dentist | RBHS |
| 7900 | Clerk | 950 | 20 | PT | SHP |
| 1902 | Analys | 300 | 20 | PT | SHP |
| 7888 | Analyst | 3000 | 10 | BMI | SHP |

13 rows in set (0.00 sec)

```
mysql> select * from dept;
```

| Deptno | Program | SchoolID |
|--------|-----------|----------|
| 10 | BMI | S001 |
| 20 | PT | S001 |
| 30 | Dentist | S002 |
| 40 | BIOPharma | S001 |
| 50 | Imagine | S002 |

5 rows in set (0.00 sec)

```
mysql> create table school (
-> school char(4),
-> sname varchar(10)
-> );
```

Query OK, 0 rows affected (0.04 sec)

```
mysql> load data infile 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/school.txt' into table school
```

```
-> fields terminated by '^'
-> lines terminated by '\r\n'
-> ignore 1 lines;
```

Query OK, 3 rows affected (0.01 sec)

Records: 3 Deleted: 0 Skipped: 0 Warnings: 0

```
mysql> select * from school;
```

| school | sname |
|--------|-------|
| S001 | SHP |
| S002 | RBHS |
| S003 | GBHS |

3 rows in set (0.00 sec)

SQL BASICS

```
mysql> select a.empno, a.job, a.sal, a.deptno, b.program, c.sname from emp a, dept b, school c
-> where a.deptno=b.deptno and b.schoolid = school and b.program = 'Dentist';
```

| empno | job | sal | deptno | program | sname |
|-------|----------|------|--------|---------|-------|
| 7654 | Salesman | 1250 | 30 | Dentist | RBHS |
| 7698 | Manager | 2850 | 30 | Dentist | RBHS |
| 7886 | Manager | 2975 | 30 | Dentist | RBHS |

```
mysql> select * from emp a
-> left join dept b
-> on a.deptno = b.deptno
-> union
-> select * from emp a
-> right join dept b
-> on a.deptno = b.deptno
-> ;
```

| EMPNO | ENAME | JOB | MGR | DOB | SAL | COMM | DEPTNO | Deptno | Program | SchoolID |
|-------|--------|-----------|------|------------|------|------|--------|--------|-----------|----------|
| 7369 | Ford | Clerk | 7902 | 1981-04-01 | 500 | NULL | 10 | 10 | BMI | S001 |
| 7499 | Allen | Salesman | 7698 | 1981-02-08 | 1630 | 100 | 20 | 20 | PT | S001 |
| 7521 | James | Salesman | 7698 | 1981-03-11 | 1250 | 100 | 10 | 10 | BMI | S001 |
| 7654 | Martin | Salesman | 7698 | 1981-02-20 | 1250 | 100 | 30 | 30 | Dentist | S002 |
| 7698 | Bike | Manager | 7839 | 1981-05-01 | 2850 | NULL | 30 | 30 | Dentist | S002 |
| 7782 | Clerk | Manager | 7839 | 1981-06-09 | 2450 | NULL | 10 | 10 | BMI | S001 |
| 7839 | King | Presidnet | NULL | 1981-09-17 | 5000 | NULL | 10 | 10 | BMI | S001 |
| 7844 | James | Clerk | 7699 | 1981-03-09 | 1500 | NULL | 20 | 20 | PT | S001 |
| 7876 | Adams | Clerk | 7788 | 1981-04-03 | 1100 | NULL | 10 | 10 | BMI | S001 |
| 7886 | Janes | Manager | 7839 | 1981-04-02 | 2975 | NULL | 30 | 30 | Dentist | S002 |
| 7900 | Turner | Clerk | 7699 | 1981-03-10 | 950 | NULL | 20 | 20 | PT | S001 |
| 1902 | Ward | Analys | 7566 | 1981-03-12 | 300 | NULL | 20 | 20 | PT | S001 |
| 7888 | Scott | Analyst | 7566 | 1981-04-02 | 3000 | NULL | 10 | 10 | BMI | S001 |
| NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL | 40 | BIOPharma | S001 |
| NULL | NULL | NULL | NULL | NULL | NULL | NULL | NULL | 50 | Imagine | S002 |

15 rows in set (0.02 sec)

```
mysql> desc MY_VIEW;
```

| Field | Type | Null | Key | Default | Extra |
|-----------|-------------|------|-----|---------|-------|
| SH_ID | varchar(5) | NO | | NULL | |
| SH_NAME | varchar(10) | YES | | NULL | |
| loc | varchar(15) | YES | | NULL | |
| record_id | varchar(5) | NO | | NULL | |
| Name | varchar(2) | YES | | NULL | |
| Age | int | YES | | NULL | |
| Gender | varchar(4) | YES | | NULL | |
| DP_ID | varchar(5) | NO | | NULL | |

8 rows in set (0.01 sec)

SQL BASICS

```
mysql> create table stu_dept (
-> Record_ID varchar(5) not null primary key,
-> SH_ID varchar(5) UNIQUE,
-> DP_ID varchar(5),
-> Foreign key(SH_ID) references student(s_id)
-> on delete cascade
-> on update cascade,
-> Foreign key(DP_ID) references dept(DP_ID)
-> on delete cascade
-> on update cascade
-> );
Query OK, 0 rows affected (0.11 sec)

mysql> select * from stu_dept;
Empty set (0.00 sec)

mysql> load data infile 'C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/STUDENT DEPT.txt' into table stu_dept
-> fields terminated by ','
-> lines terminated by '\r\n'
-> ignore 1 lines;
Query OK, 6 rows affected (0.02 sec)
Records: 6 Deleted: 0 Skipped: 0 Warnings: 0

mysql> select * from stu_dept;
+-----+-----+-----+
| Record_ID | SH_ID | DP_ID |
+-----+-----+-----+
| R001      | S001  | D002  |
| R002      | S002  | D002  |
| R003      | S003  | D001  |
| R004      | S004  | D004  |
| R005      | S005  | D001  |
| R006      | S006  | D001  |
+-----+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> select count(d.gender), b.sh_name, d.gender from stu_dept a, school b, dept c, student d
-> where a.dp_id = c.dp_id
-> and a.SH_ID = d.S_ID
-> AND B.SH_id = C.SH_ID
-> GROUP BY SH_NAME;
```

| count(d.gender) | sh_name | gender |
|-----------------|-----------|--------|
| 3 | RBHS | M |
| 2 | SHP | M |
| 1 | DENTISTRY | F |

```
3 rows in set (0.01 sec)
```

```
mysql> show index from student;
```

| Table | Non_unique | Key_name | Seq_in_index | Column_name | Collation | Cardinality | Sub_part | Packed | Null |
|------------|------------|------------------|--------------|-------------|-----------|-------------|----------|--------|------|
| Index_type | Comment | Index_comment | Visible | Expression | | | | | |
| student | 0 | PRIMARY | 1 | S_ID | A | 6 | NULL | NULL | |
| BTREE | | | YES | NULL | | | | | |
| student | 1 | idx_student_name | 1 | Name | A | 6 | NULL | NULL | YES |
| BTREE | | | YES | NULL | | | | | |

2 rows in set (0.03 sec)