



**BHARATIYA VIDYA BHAVAN'S**  
**SARDAR PATEL INSTITUTE OF TECHNOLOGY**

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**DEPARTMENT OF MASTER OF COMPUTER APPLICATION**

**CLASS: F.Y. MCA**

**SEM: I**

**COURSE CODE: MC504**

**SUBJECT NAME: DATABASE MANAGEMENT SYSTEM LAB**

**ROLL NO. : 2022510034**

**BATCH: B**

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**EXPERIMENT NO: 06**

**EXPERIMENT TITLE: To retrieve a data using Subquery**

## Subqueries in MYSQL

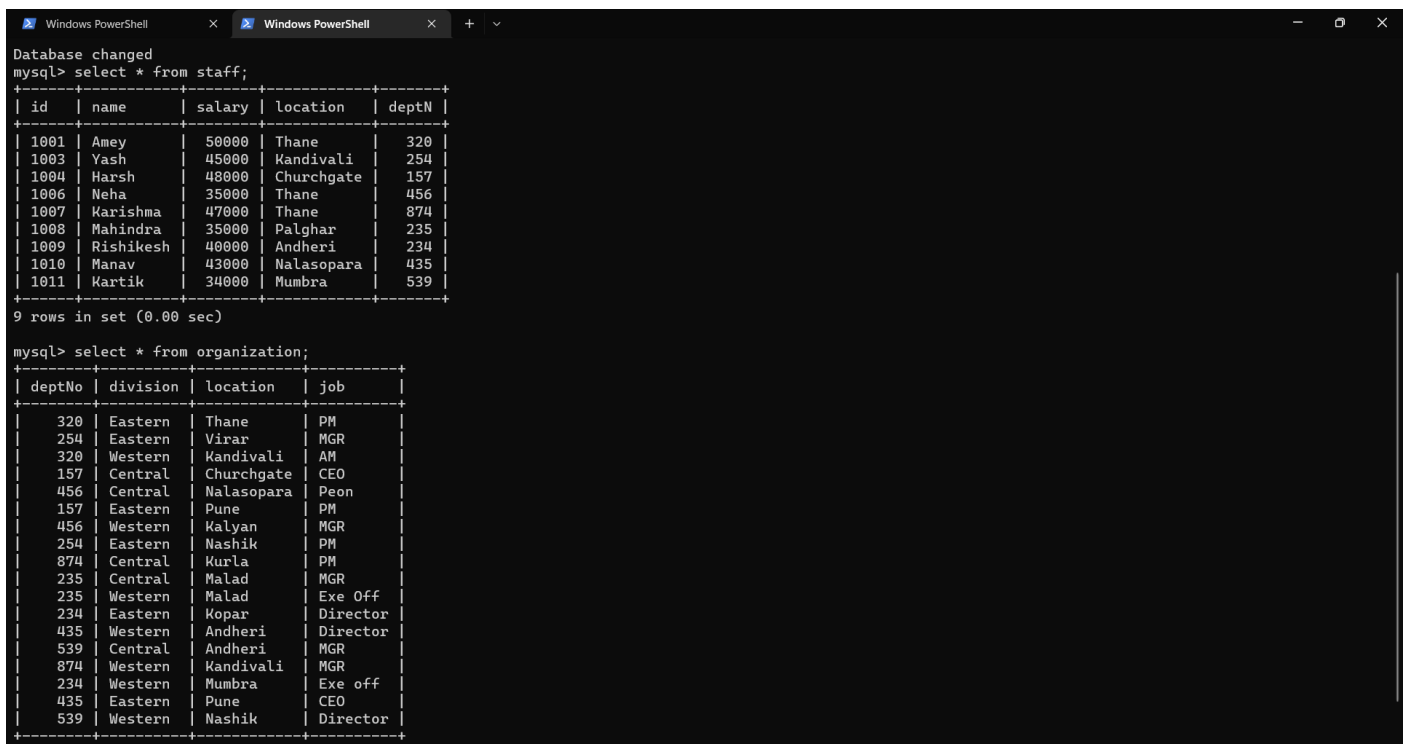
1. A subquery in MySQL is a query, which is nested into another SQL query and embedded with SELECT, UPDATE or DELETE statement along with the various operators.
2. We can also nest the subquery with another subquery. A subquery is known as the inner query, and the query that contains the subquery is known as the outer query.
3. The inner query executed first gives the result to the outer query, and then the main/outer query will be performed. MySQL allows us to use subquery anywhere, but it must be closed within parenthesis.
4. All subquery forms and operations supported by the SQL standard will be supported in MySQL also.

### Syntax :

```
SELECT column_list (s) FROM table_name  
WHERE column_name OPERATOR  
(SELECT column_list (s) FROM table_name [WHERE])
```

### Outputs :-

#### Tables :- staff and organization



```
Database changed  
mysql> select * from staff;  
+-----+-----+-----+-----+-----+  
| id | name | salary | location | deptN |  
+-----+-----+-----+-----+-----+  
| 1001 | Amey | 50000 | Thane | 320 |  
| 1003 | Yash | 45000 | Kandivali | 254 |  
| 1004 | Harsh | 48000 | Churchgate | 157 |  
| 1006 | Neha | 35000 | Thane | 456 |  
| 1007 | Karishma | 47000 | Thane | 874 |  
| 1008 | Mahindra | 35000 | Palghar | 235 |  
| 1009 | Rishikesh | 40000 | Andheri | 234 |  
| 1010 | Manav | 43000 | Nalasopara | 435 |  
| 1011 | Kartik | 34000 | Mumbra | 539 |  
+-----+-----+-----+-----+-----+  
9 rows in set (0.00 sec)  
  
mysql> select * from organization;  
+-----+-----+-----+-----+  
| deptNo | division | location | job |  
+-----+-----+-----+-----+  
| 320 | Eastern | Thane | PM |  
| 254 | Eastern | Virar | MGR |  
| 320 | Western | Kandivali | AM |  
| 157 | Central | Churchgate | CEO |  
| 456 | Central | Nalasopara | Peon |  
| 157 | Eastern | Pune | PM |  
| 456 | Western | Kalyan | MGR |  
| 254 | Eastern | Nashik | PM |  
| 874 | Central | Kurla | PM |  
| 235 | Central | Malad | MGR |  
| 235 | Western | Malad | Exe Off |  
| 234 | Eastern | Kopar | Director |  
| 435 | Western | Andheri | Director |  
| 539 | Central | Andheri | MGR |  
| 874 | Western | Kandivali | MGR |  
| 234 | Western | Mumbra | Exe off |  
| 435 | Eastern | Pune | CEO |  
| 539 | Western | Nashik | Director |  
+-----+-----+-----+-----+
```

```
C:\WINDOWS\system32\cmd. x + v
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> use fymca;
Database changed
mysql>
mysql> select name, salary, location from staff where deptN = (select deptNo from organization where location = 'Thane');
+-----+-----+-----+
| name | salary | location |
+-----+-----+-----+
| Amey | 50000 | Thane |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> select name, salary, location from staff where deptN = any (select deptNo from organization where division = 'Western');
+-----+-----+-----+
| name | salary | location |
+-----+-----+-----+
| Amey | 50000 | Thane |
| Karishma | 47000 | Thane |
| Mahindra | 35000 | Palghar |
| Rishikesh | 41000 | Andheri |
| Kartik | 41000 | Mumbra |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select deptN, avg(salary) from staff group by deptN having avg(salary) >= all (select avg(salary) from staff group by deptN);
+-----+-----+
| deptN | avg(salary) |
+-----+-----+
| 320 | 50000.0000 |
+-----+-----+
1 row in set (0.01 sec)

mysql> select id, name, location from staff where salary > 45000 and deptN in (select distinct deptNo from organization where job = 'PM');
+-----+-----+-----+
| id | name | location |
+-----+-----+-----+
| 1001 | Amey | Thane |
| 1007 | Karishma | Thane |
+-----+-----+-----+
```

```
C:\WINDOWS\system32\cmd. x + v

mysql> select deptN, avg(salary) from staff group by deptN having avg(salary) >= all (select avg(salary) from staff group by deptN);
+-----+-----+
| deptN | avg(salary) |
+-----+-----+
| 320 | 50000.0000 |
+-----+-----+
1 row in set (0.01 sec)

mysql> select id, name, location from staff where salary > 45000 and deptN in (select distinct deptNo from organization where job = 'PM');
+-----+-----+-----+
| id | name | location |
+-----+-----+-----+
| 1001 | Amey | Thane |
| 1007 | Karishma | Thane |
+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> select id,name,salary,location from staff where salary < 40000 and exists (select * from organization where deptN = deptNo and job = 'MGR') order by deptN;
+-----+-----+-----+-----+
| id | name | salary | location |
+-----+-----+-----+-----+
| 1008 | Mahindra | 35000 | Palghar |
+-----+-----+-----+-----+
1 row in set (0.01 sec)

mysql> select deptN, name, salary from staff where salary <= (select min(salary) from staff where deptN = any (select deptNo from organization where job = 'PM'));
+-----+-----+-----+
| deptN | name | salary |
+-----+-----+-----+
| 254 | Yash | 45000 |
| 235 | Mahindra | 35000 |
| 234 | Rishikesh | 41000 |
| 539 | Kartik | 41000 |
+-----+-----+-----+
4 rows in set (0.01 sec)

mysql> |
```

```
Database changed
mysql>
mysql>
mysql> update staff set salary = 41000 where deptN = any (select deptNo from organization where job = 'Director');
Query OK, 3 rows affected (0.01 sec)
Rows matched: 3 Changed: 3 Warnings: 0

mysql> select * from staff;
+-----+-----+-----+-----+-----+
| id | name | salary | location | deptN |
+-----+-----+-----+-----+-----+
| 1001 | Amey | 50000 | Thane | 320 |
| 1003 | Yash | 45000 | Kandivali | 254 |
| 1004 | Harsh | 48000 | Churchgate | 157 |
| 1006 | Neha | 35000 | Thane | 456 |
| 1007 | Karishma | 47000 | Thane | 874 |
| 1008 | Mahindra | 35000 | Palghar | 235 |
| 1009 | Rishikesh | 41000 | Andheri | 234 |
| 1010 | Manav | 41000 | Nalasopara | 435 |
| 1011 | Kartik | 41000 | Mumbra | 539 |
+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)

mysql> delete from staff where deptN = any (select deptNo from organization where job = 'CEO' or job = 'Peon');
Query OK, 3 rows affected (0.01 sec)

mysql> select * from staff;
+-----+-----+-----+-----+-----+
| id | name | salary | location | deptN |
+-----+-----+-----+-----+-----+
| 1001 | Amey | 50000 | Thane | 320 |
| 1003 | Yash | 45000 | Kandivali | 254 |
| 1007 | Karishma | 47000 | Thane | 874 |
| 1008 | Mahindra | 35000 | Palghar | 235 |
| 1009 | Rishikesh | 41000 | Andheri | 234 |
| 1011 | Kartik | 41000 | Mumbra | 539 |
+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> |
```