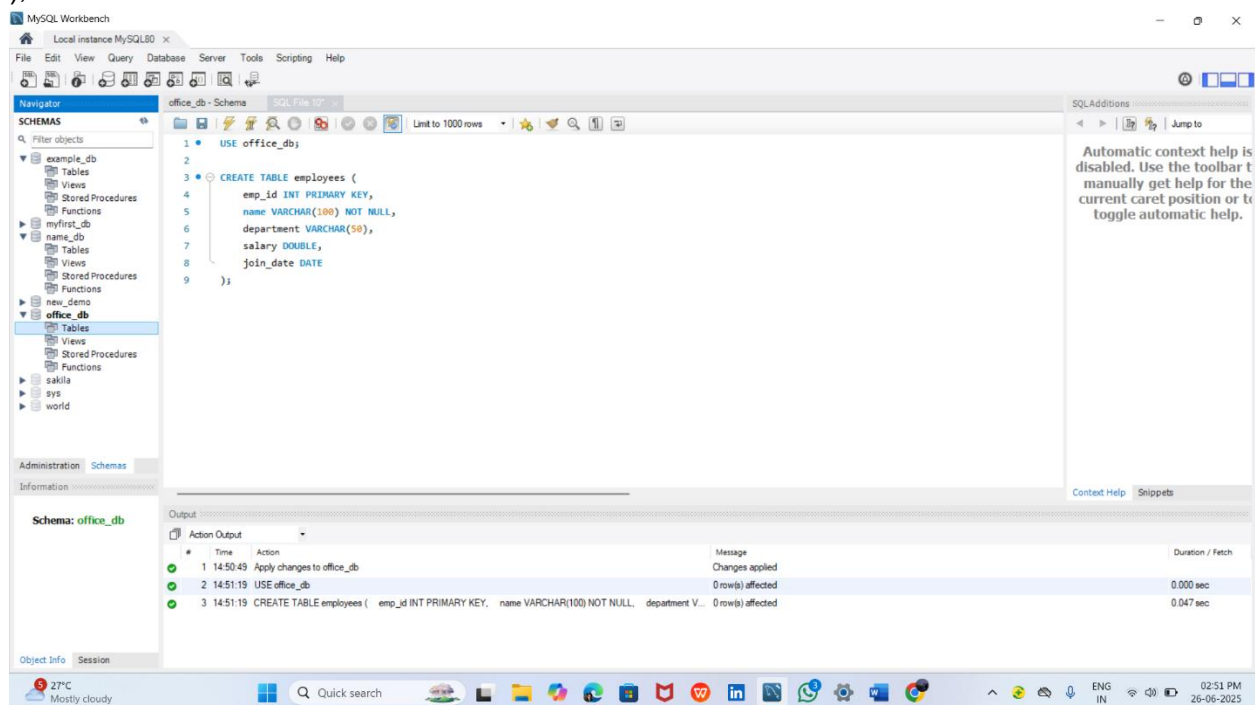

SQL(Structural Query Language)

Name: Ragini Dattatray Telange

1. Creating table

```
CREATE TABLE employees (  
    emp_id INT PRIMARY KEY,  
    name VARCHAR(100) NOT NULL,  
    department VARCHAR(50),  
    salary DOUBLE,  
    join_date DATE  
);
```



2. Insert query

```
INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES  
(101, 'John Doe', 'HR', 45000, '2021-06-15');
```

(102, 'Jane Smith', 'IT', 75000, '2020-01-10'),
(103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),
(104, 'Bob Brown', 'IT', 80000, '2022-03-01'),
(105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

office_db - Schema SQL File 10* employees

Limit to 1000 rows

1 SELECT * FROM office_db.employees;

Result Grid

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05

employees 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
3	14:51:19	CREATE TABLE employees (emp_id INT PRIMARY KEY, name VARCHAR(100) NOT NULL, departmen...	0 row(s) affected	0.047 sec
4	14:52:12	USE office_db	0 row(s) affected	0.000 sec
5	14:52:12	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 45000, ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.032 sec
6	14:52:26	USE office_db	0 row(s) affected	0.000 sec
7	14:52:26	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 45000, ...	Error Code: 1062 Duplicate entry '101' for key 'employees PRIMARY'	0.000 sec
8	14:52:56	SELECT * FROM office_db.employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

27°C Mostly cloudy

Quick search

ENG IN 02:52 PM 26-06-2025

Select query

SELECT * FROM employees;

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

office_db - Schema SQL File 10* employees

Limit to 1000 rows

1 USE office_db;

2

3 SELECT * FROM employees;

4

Result Grid

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05

employees 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
5	14:52:12	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 45000, ...	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.032 sec
6	14:52:26	USE office_db	0 row(s) affected	0.000 sec
7	14:52:26	INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES (101, 'John Doe', 'HR', 45000, ...	Error Code: 1062 Duplicate entry '101' for key 'employees PRIMARY'	0.000 sec
8	14:52:56	SELECT * FROM office_db.employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
9	14:53:31	USE office_db	0 row(s) affected	0.000 sec
10	14:53:31	SELECT * FROM employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

27°C Mostly cloudy

Quick search

ENG IN 02:53 PM 26-06-2025

SELECT name, department FROM employees;

The screenshot shows the MySQL Workbench interface. The 'Schemas' pane on the left lists various databases, with 'office_db' selected. The 'SQL File 10' editor contains the query: `USE office_db;` followed by `SELECT name, department FROM employees;`. The 'Result Grid' displays the following data:

name	department
John Doe	HR
Jane Smith	IT
Alice Johnson	Finance
Bob Brown	IT
Eve Davis	Marketing

The 'Output' pane at the bottom shows the execution log, including the query execution and the result set returned.

SELECT * FROM employees
WHERE department = 'IT';

The screenshot shows the MySQL Workbench interface. The 'Schemas' pane on the left lists various databases, with 'office_db' selected. The 'SQL File 10' editor contains the query: `USE office_db;` followed by `SELECT * FROM employees` and `WHERE department = 'IT';`. The 'Result Grid' displays the following data:

emp_id	name	department	salary	join_date
102	Jane Smith	IT	75000	2020-01-10
104	Bob Brown	IT	80000	2022-03-01

The 'Output' pane at the bottom shows the execution log, including the query execution and the result set returned.

AND, IN BETWEEN & LIKE

SELECT * FROM employees

WHERE department = 'IT' AND salary > 75000;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT * FROM employees
4 WHERE department = 'IT' AND salary > 75000;
5
6
7
8
9
```

The Result Grid shows the following data:

emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
11	14:54:12	USE office_db	0 row(s) affected	0.000 sec
12	14:54:12	SELECT name, department FROM employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
13	14:54:47	USE office_db	0 row(s) affected	0.000 sec
14	14:54:47	SELECT * FROM employees WHERE department = 'IT' LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
15	14:55:33	USE office_db	0 row(s) affected	0.000 sec
16	14:55:33	SELECT * FROM employees WHERE department = 'IT' AND salary > 75000 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

SELECT * FROM employees

WHERE department IN ('IT', 'Finance');

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT * FROM employees
4 WHERE department IN ('IT', 'Finance');
5
6
7
8
9
```

The Result Grid shows the following data:

emp_id	name	department	salary	join_date
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
13	14:54:47	USE office_db	0 row(s) affected	0.000 sec
14	14:54:47	SELECT * FROM employees WHERE department = 'IT' LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
15	14:55:33	USE office_db	0 row(s) affected	0.000 sec
16	14:55:33	SELECT * FROM employees WHERE department = 'IT' AND salary > 75000 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
17	14:56:09	USE office_db	0 row(s) affected	0.000 sec
18	14:56:09	SELECT * FROM employees WHERE department IN ('IT', 'Finance') LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec

SELECT * FROM employees

WHERE salary BETWEEN 50000 AND 70000;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT * FROM employees
4 WHERE salary BETWEEN 50000 AND 70000;
5
6
7
8
9
```

The Result Grid shows the following data:

emp_id	name	department	salary	join_date
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
15	14:55:33	USE office_db	0 row(s) affected	0.000 sec
16	14:55:33	SELECT * FROM employees WHERE department = 'IT' AND salary > 75000 LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec
17	14:56:09	USE office_db	0 row(s) affected	0.000 sec
18	14:56:09	SELECT * FROM employees WHERE department IN ('IT', 'Finance') LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
19	14:56:41	USE office_db	0 row(s) affected	0.000 sec
20	14:56:41	SELECT * FROM employees WHERE salary BETWEEN 50000 AND 70000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

SELECT * FROM employees
WHERE name LIKE 'J%'; -- Names starting with J

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT * FROM employees
4 WHERE name LIKE 'J%'; -- Names starting with J
5
6
7
8
9
```

The Result Grid shows the following data:

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
17	14:56:09	USE office_db	0 row(s) affected	0.000 sec
18	14:56:09	SELECT * FROM employees WHERE department IN ('IT', 'Finance') LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
19	14:56:41	USE office_db	0 row(s) affected	0.000 sec
20	14:56:41	SELECT * FROM employees WHERE salary BETWEEN 50000 AND 70000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
21	14:57:17	USE office_db	0 row(s) affected	0.000 sec
22	14:57:17	SELECT * FROM employees WHERE name LIKE 'J%'; LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec

CLAUSE -ORDER BY, WHERE, HAVING

```
SELECT * FROM employees  
ORDER BY salary DESC;
```

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 USE office_db;  
2  
3 SELECT * FROM employees  
4 ORDER BY salary DESC;  
5  
6  
7  
8  
9
```

The Result Grid displays the following data:

emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05
101	John Doe	HR	45000	2021-06-15

The Output tab shows the execution log:

#	Time	Action	Message	Duration / Fetch
19	14:56:41	USE office_db	0 row(s) affected	0.000 sec
20	14:56:41	SELECT * FROM employees WHERE salary BETWEEN 50000 AND 70000 LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
21	14:57:17	USE office_db	0 row(s) affected	0.000 sec
22	14:57:17	SELECT * FROM employees WHERE name LIKE 'J%': LIMIT 0, 1000	2 row(s) returned	0.000 sec / 0.000 sec
23	14:57:53	USE office_db	0 row(s) affected	0.000 sec
24	14:57:53	SELECT * FROM employees ORDER BY salary DESC LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

UPDATE QUERY

```
UPDATE employees  
SET salary = 82000  
WHERE emp_id = 104;
```

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

office_db - Schema

SQL File 10*

employees employees employees employees

Limit to 1000 rows

1: `SELECT * FROM office_db.employees;`

Result Grid

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	82000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05

employees 1 x

Schema: office_db

Output

Action Output

#	Time	Action	Message	Duration / Fetch
25	14:58:23	USE office_db	0 row(s) affected	0.000 sec
26	14:58:23	UPDATE employees SET salary = 82000 WHERE emp_id = 104	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.015 sec
27	14:58:29	SELECT * FROM office_db.employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
28	14:58:47	USE office_db	0 row(s) affected	0.000 sec
29	14:58:47	UPDATE employees SET salary = 82000 WHERE emp_id = 104	0 row(s) affected Rows matched: 1 Changed: 0 Warnings: 0	0.000 sec
30	14:58:54	SELECT * FROM office_db.employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

27°C Mostly cloudy

Quick search

ENG IN

02:59 PM 26-06-2025

DELETE FROM employees
WHERE emp_id = 105;

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

office_db - Schema

SQL File 10*

employees employees employees employees

Limit to 1000 rows

1: `SELECT * FROM office_db.employees;`

Result Grid

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	82000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05

employees 1 x

Schema: office_db

Output

Action Output

#	Time	Action	Message	Duration / Fetch
28	14:58:47	USE office_db	0 row(s) affected	0.000 sec
29	14:58:47	UPDATE employees SET salary = 82000 WHERE emp_id = 104	0 row(s) affected Rows matched: 1 Changed: 0 Warnings: 0	0.000 sec
30	14:58:54	SELECT * FROM office_db.employees LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
31	14:59:34	USE office_db	0 row(s) affected	0.000 sec
32	14:59:34	DELETE FROM employees WHERE emp_id = 105	1 row(s) affected	0.016 sec
33	14:59:38	SELECT * FROM office_db.employees LIMIT 0, 1000	4 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

27°C Mostly cloudy

Quick search

ENG IN

02:59 PM 26-06-2025

SELECT department, AVG(salary) AS avg_salary
FROM employees
GROUP BY department;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT department, AVG(salary) AS avg_salary
4 FROM employees
5 GROUP BY department;
```

The query is executed, and the results are displayed in the Result Grid:

department	avg_salary
HR	45000
IT	78500
Finance	60000

The bottom panel shows the Action Output log, which includes the following entries:

- 30 14:58:54 SELECT * FROM office_db.employees LIMIT 0, 1000
- 31 14:59:34 USE office_db
- 32 14:59:34 DELETE FROM employees WHERE emp_id = 105
- 33 14:59:38 SELECT * FROM office_db.employees LIMIT 0, 1000
- 34 15:00:17 USE office_db
- 35 15:00:17 SELECT department, AVG(salary) AS avg_salary FROM employees GROUP BY department LIMIT 0, 1000

SELECT department, COUNT(*) AS emp_count
FROM employees
GROUP BY department
HAVING COUNT(*) > 1;

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 USE office_db;
2
3 SELECT department, COUNT(*) AS emp_count
4 FROM employees
5 GROUP BY department
6 HAVING COUNT(*) > 1;
```

The query is executed, and the results are displayed in the Result Grid:

department	emp_count
IT	2

The bottom panel shows the Action Output log, which includes the following entries:

- 32 14:59:34 DELETE FROM employees WHERE emp_id = 105
- 33 14:59:38 SELECT * FROM office_db.employees LIMIT 0, 1000
- 34 15:00:17 USE office_db
- 35 15:00:17 SELECT department, AVG(salary) AS avg_salary FROM employees GROUP BY department LIMIT 0, 1000
- 36 15:00:47 USE office_db
- 37 15:00:47 SELECT department, COUNT(*) AS emp_count FROM employees GROUP BY department HAVING COUNT(*) > 1