EMPLOYEE DATABASE

```
show databases;


create database empl;


show databases;


use empl;


CREATE TABLE Department (
    dept_id INT PRIMARY KEY,
    dept_name VARCHAR(50),
    dept_location VARCHAR(50),
    manager_id INT
);


CREATE TABLE Employee (
    emp_id INT PRIMARY KEY,
    emp_name VARCHAR(50),
    job_role VARCHAR(50),
    salary DECIMAL(10,2),
    dept_id INT,
    manager_id INT,
    FOREIGN KEY (dept_id) REFERENCES Department(dept_id),
    FOREIGN KEY (manager_id) REFERENCES Employee(emp_id)
);
```

```sql
CREATE TABLE Project (
    proj_id INT PRIMARY KEY,
    proj_name VARCHAR(50),
    proj_location VARCHAR(50),
    dept_id INT,
    FOREIGN KEY (dept_id) REFERENCES Department(dept_id)
);

CREATE TABLE Works_On (
    emp_id INT,
    proj_id INT,
    PRIMARY KEY (emp_id, proj_id),
    FOREIGN KEY (emp_id) REFERENCES Employee(emp_id),
    FOREIGN KEY (proj_id) REFERENCES Project(proj_id)
);

CREATE TABLE Incentive (
    emp_id INT,
    incentive_date DATE,
    incentive_amount DECIMAL(10,2),
    FOREIGN KEY (emp_id) REFERENCES Employee(emp_id)
);

show tables;
```

```
INSERT INTO Department VALUES

(10, 'HR', 'Bengaluru', 1001),

(20, 'IT', 'Hyderabad', 1002),

(30, 'Finance', 'Mysuru', 1003),

(40, 'Admin', 'Pune', 1004),

(50, 'Marketing', 'Chennai', 1005);


select * from Department;


INSERT INTO Employee VALUES

(1001, 'Amit', 'Manager', 90000, 10, NULL),

(1002, 'Ravi', 'Manager', 95000, 20, NULL),

(1003, 'Sneha', 'Manager', 92000, 30, NULL),

(1004, 'Kiran', 'Manager', 88000, 40, NULL),

(1005, 'Meera', 'Manager', 97000, 50, NULL),

(1010, 'Raj', 'Analyst', 55000, 20, 1002),

(1011, 'Anu', 'Developer', 48000, 20, 1002),

(1012, 'Vijay', 'HR Executive', 40000, 10, 1001),

(1013, 'Priya', 'Accountant', 42000, 30, 1003),

(1014, 'Suresh', 'Clerk', 30000, 40, 1004);


select * from Employee;


INSERT INTO Project VALUES

(201, 'Recruitment', 'Bengaluru', 10),
```

```
(202, 'ERP Upgrade', 'Hyderabad', 20),

(203, 'Budget Planning', 'Mysuru', 30),

(204, 'Office Setup', 'Pune', 40),

(205, 'Ad Campaign', 'Chennai', 50);


select * from Project;


INSERT INTO Works_On VALUES

(1010, 202),

(1011, 202),

(1012, 201),

(1013, 203),

(1014, 204);


select * from Works_On;


INSERT INTO Incentive VALUES

(1010, '2019-02-10', 2000),

(1011, '2019-02-12', 1500),

(1012, '2019-02-15', 1000),

(1013, '2019-02-18', 2500),

(1001, '2019-02-20', 3000);


select * from Incentive;


SELECT DISTINCT w.emp_id
```

FROM Works_On w

JOIN Project p ON w.proj_id = p.proj_id

WHERE p.proj_location IN ('Bengaluru', 'Hyderabad', 'Mysuru');

SELECT e.emp_id

FROM Employee e

WHERE e.emp_id NOT IN (SELECT emp_id FROM Incentive);

SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role,

    d.dept_location, p.proj_location

FROM Employee e

JOIN Department d ON e.dept_id = d.dept_id

JOIN Works_On w ON e.emp_id = w.emp_id

JOIN Project p ON w.proj_id = p.proj_id

WHERE d.dept_location = p.proj_location;

OUTPUT:

Screenshot 1

MySQL Workbench — Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT
- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE
- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE
- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

Information

No object selected

Object Info Session

Query 1

Limit to 1000 rows

```
53   INSERT INTO Department VALUES
54   (10, 'HR', 'Bengaluru', 1001),
55   (20, 'IT', 'Hyderabad', 1002),
56   (30, 'Finance', 'Mysuru', 1003),
57   (40, 'Admin', 'Pune', 1004),
58   (50, 'Marketing', 'Chennai', 1005);
59
60   select * from Department;
61
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

dept_id	dept_name	dept_location	manager_id
10	HR	Bengaluru	1001
20	IT	Hyderabad	1002
30	Finance	Mysuru	1003
40	Admin	Pune	1004
50	Marketing	Chennai	1005

Department 14

Output

Action Output

#	Time	Action	Message	Duration / Fetch
21	09:15:43	SELECT DISTINCT w.emp_id FROM Works_On w JOIN Project p ON w.proj_id = p.proj_id ...	4 row(s) returned	0.031 sec / 0.000 sec
22	09:16:09	SELECT e.emp_id FROM Employee e WHERE e.emp_id NOT IN (SELECT emp_id FROM I...	5 row(s) returned	0.047 sec / 0.000 sec
23	09:16:37	SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role, d.dept_location, p.proj_locati...	5 row(s) returned	0.000 sec / 0.000 sec
24	09:23:13	show tables	5 row(s) returned	0.000 sec / 0.000 sec
25	09:24:16	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

SQL Additions

Jump to

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.

Context Help Snippets

Screenshot 2

MySQL Workbench — Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT
- Server Status
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- Options File

PERFORMANCE
- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

Information

No object selected

Object Info Session

Query 1

Limit to 1000 rows

```
71   (1013, 'Priya', 'Accountant', 42000, 30, 1003),
72   (1014, 'Suresh', 'Clerk', 30000, 40, 1004);
73
74   select * from Employee;
75
76   INSERT INTO Project VALUES
77   (201, 'Recruitment', 'Bengaluru', 10),
78   (202, 'ERP Upgrade', 'Hyderabad', 20),
79   (203, 'Budget Planning', 'Mysuru', 30),
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

emp_id	emp_name	job_role	salary	dept_id	manager_id
1001	Amit	Manager	90000.00	10	NULL
1002	Ravi	Manager	95000.00	20	NULL
1003	Sneha	Manager	92000.00	30	NULL
1004	Kiran	Manager	88000.00	40	NULL
1005	Meera	Manager	97000.00	50	NULL

Employee 15

Output

Action Output

#	Time	Action	Message	Duration / Fetch
22	09:16:09	SELECT e.emp_id FROM Employee e WHERE e.emp_id NOT IN (SELECT emp_id FROM I...	5 row(s) returned	0.047 sec / 0.000 sec
23	09:16:37	SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role, d.dept_location, p.proj_locati...	5 row(s) returned	0.000 sec / 0.000 sec
24	09:23:13	show tables	5 row(s) returned	0.000 sec / 0.000 sec
25	09:24:16	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec

SQL Additions

Jump to

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.

Context Help Snippets

First window — Project table:

```
80        (204, 'Office Setup', 'Pune', 40),
81        (205, 'Ad Campaign', 'Chennai', 50);
82
83 ●      select * from Project;
84
85 ●      INSERT INTO Works_On VALUES
86        (1010, 202),
87        (1011, 202),
88        (1012, 201),
```

proj_id	proj_name	proj_location	dept_id
201	Recruitment	Bengaluru	10
202	ERP Upgrade	Hyderabad	20
203	Budget Planning	Mysuru	30
204	Office Setup	Pune	40
205	Ad Campaign	Chennai	50

Action Output (first window):

#	Time	Action	Message	Duration / Fetch
23	09:16:37	SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role, d.dept_location, p.proj_locati...	5 row(s) returned	0.000 sec / 0.000 sec
24	09:23:13	show tables	5 row(s) returned	0.000 sec / 0.000 sec
25	09:24:16	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

---

Second window — Works_On table:

```
86        (1010, 202),
87        (1011, 202),
88        (1012, 201),
89        (1013, 203),
90        (1014, 204);
91
92 ●      select * from Works_On;
93
94 ●      INSERT INTO Incentive VALUES
```

emp_id	proj_id
1012	201
1010	202
1011	202
1013	203
1014	204

Action Output (second window):

#	Time	Action	Message	Duration / Fetch
24	09:23:13	show tables	5 row(s) returned	0.000 sec / 0.000 sec
25	09:24:16	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
29	09:27:47	select * from Works_On LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec

Screenshot 1 — MySQL Workbench — Local instance MySQL80

Query editor:
```
95    (1010, '2019-02-10', 2000),
96    (1011, '2019-02-12', 1500),
97    (1012, '2019-02-15', 1000),
98    (1013, '2019-02-18', 2500),
99    (1001, '2019-02-20', 3000);
100
101 • select * from Incentive;
102
103   SELECT DISTINCT w.emp_id
```

Result Grid (Incentive 18):

emp_id	incentive_date	incentive_amount
1010	2019-02-10	2000.00
1011	2019-02-12	1500.00
1012	2019-02-15	1000.00
1013	2019-02-18	2500.00
1001	2019-02-20	3000.00

Action Output:

#	Time	Action	Message	Duration / Fetch
25	09:24:16	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
29	09:27:47	select * from Works_On LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
30	09:28:49	select * from Incentive LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

---

Screenshot 2 — MySQL Workbench — Local instance MySQL80

Query editor:
```
101 • select * from Incentive;
102
103   SELECT DISTINCT w.emp_id
104   FROM Works_On w
105   JOIN Project p ON w.proj_id = p.proj_id
106   WHERE p.proj_location IN ('Bengaluru', 'Hyderabad', 'Mysuru');
107
108 • SELECT e.emp_id
109   FROM Employee e
```

Result Grid (Result 19):

emp_id
1012
1010
1011
1013

Action Output:

#	Time	Action	Message	Duration / Fetch
26	09:24:56	select * from Department LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
29	09:27:47	select * from Works_On LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
30	09:28:49	select * from Incentive LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
31	09:29:27	SELECT DISTINCT w.emp_id FROM Works_On w JOIN Project p ON w.proj_id = p.proj_id ...	4 row(s) returned	0.016 sec / 0.000 sec

MySQL Workbench — Local instance MySQL80

```sql
107
108   SELECT e.emp_id
109   FROM Employee e
110   WHERE e.emp_id NOT IN (SELECT emp_id FROM Incentive);
111
112   SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role,
113          d.dept_location, p.proj_location
114   FROM Employee e
115   JOIN Department d ON e.dept_id = d.dept_id
```

Result Grid

emp_id
1002
1003
1004
1014
1005

Output — Action Output

#	Time	Action	Message	Duration / Fetch
27	09:25:50	select * from Employee LIMIT 0, 1000	10 row(s) returned	0.000 sec / 0.000 sec
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
29	09:27:47	select * from Works_On LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
30	09:28:49	select * from Incentive LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
31	09:29:27	SELECT DISTINCT w.emp_id FROM Works_On w JOIN Project p ON w.proj_id = p.proj_id	4 row(s) returned	0.016 sec / 0.000 sec
32	09:30:07	SELECT e.emp_id FROM Employee e WHERE e.emp_id NOT IN (SELECT emp_id FROM I...	5 row(s) returned	0.000 sec / 0.000 sec

MySQL Workbench — Local instance MySQL80

```sql
107
108   SELECT e.emp_id
109   FROM Employee e
110   WHERE e.emp_id NOT IN (SELECT emp_id FROM Incentive);
111
112   SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role,
113          d.dept_location, p.proj_location
114   FROM Employee e
115   JOIN Department d ON e.dept_id = d.dept_id
```

Result Grid

emp_name	emp_id	dept_name	job_role	dept_location	proj_location
Vijay	1012	HR	HR Executive	Bengaluru	Bengaluru
Raj	1010	IT	Analyst	Hyderabad	Hyderabad
Anu	1011	IT	Developer	Hyderabad	Hyderabad
Priya	1013	Finance	Accountant	Mysuru	Mysuru
Suresh	1014	Admin	Clerk	Pune	Pune

Output — Action Output

#	Time	Action	Message	Duration / Fetch
28	09:27:12	select * from Project LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
29	09:27:47	select * from Works_On LIMIT 0, 1000	5 row(s) returned	0.016 sec / 0.000 sec
30	09:28:49	select * from Incentive LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
31	09:29:27	SELECT DISTINCT w.emp_id FROM Works_On w JOIN Project p ON w.proj_id = p.proj_id ...	4 row(s) returned	0.016 sec / 0.000 sec
32	09:30:07	SELECT e.emp_id FROM Employee e WHERE e.emp_id NOT IN (SELECT emp_id FROM I...	5 row(s) returned	0.000 sec / 0.000 sec
33	09:30:59	SELECT e.emp_name, e.emp_id, d.dept_name, e.job_role, d.dept_location, p.proj_locati...	5 row(s) returned	0.000 sec / 0.000 sec