

SECTION 16 & 17

Our topic is Self_Join:

Our task is from the previously created employee manager table, extract the record data only of those employees who are managers as well.

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'employees' selected. The main editor window contains a SQL query for a self-join on the 'emp_manager' table. The query is as follows:

```
125 JOIN dept_emp de ON e.emp_no = de.emp_no
126
127 WHERE
128     e.emp_no = 110039
129     GROUP BY e.emp_no) AS d) as u;
130
131 • select * from emp_manager;
132 • select distinct e1.*
133   from emp_manager e1
134  join emp_manager e2
135   ON e1.emp_no = e2.manager_no;
136
```

The 'Result Grid' at the bottom shows the output of the query, displaying two rows of data:

emp_no	dept_no	manager_no
110022	d001	110039
110039	d001	110022

The 'Output' pane at the bottom shows the execution details of the query, including the time taken and the number of rows returned.

#	Time	Action	Message	Duration / Fetch
1	11:11:11	select * from emp_manager	42 row(s) returned	0.000 sec / 0.000 sec
2	11:29:46	select distinct e1.* from emp_manager e1 join emp_manager e2 ON e1.emp_no = e2.manager...	2 row(s) returned	0.031 sec / 0.000 sec

Next topic is Views:

Imagine you wanted to see a tabular output with a number of each employee shown only once having their latest starting and ending date. Simply put, you need to visualize only the period encompassing the last contract of each employee.

MySQL Workbench interface showing the creation of a view. The SQL editor contains the following query:

```

135 ON e1.emp_no = e2.manager_no;
136
137 • select * from dept_emp;
138
139 • create or replace view V_dept_emp_latest_date AS
140 select emp_no, MAX(from_date) AS from_date, MAX(to_date) AS to_date
141 from dept_emp
142 group by emp_no;
143
144
145
146

```

The output window shows the execution results:

emp_no	from_date	to_date
10002	1996-08-03	9999-01-01
10003	1995-12-03	9999-01-01
10004	1986-12-01	9999-01-01
10005	1989-09-12	9999-01-01
10006	1990-08-05	9999-01-01

The output window also shows the execution details:

#	Time	Action	Message	Duration / Fetch
3	12:25:48	select * from dept_emp	331604 row(s) returned	0.109 sec / 1.157 sec
4	12:32:52	select emp_no, MAX(from_date) AS from_date, MAX(to_date) AS to_date from dept_emp group by emp_no	300025 row(s) returned	0.047 sec / 0.546 sec

MySQL Workbench interface showing the execution of a query. The SQL editor contains the following query:

```

1 • SELECT * FROM employees.dept_emp_latest_date;

```

The output window shows the execution results:

emp_no	from_date	to_date
10001	1986-06-26	9999-01-01
10002	1996-08-03	9999-01-01
10003	1995-12-03	9999-01-01
10004	1986-12-01	9999-01-01
10005	1989-09-12	9999-01-01

The output window also shows the execution details:

#	Time	Action	Message	Duration / Fetch
5	12:33:49	create or replace view V_dept_emp_latest_date AS select emp_no, MAX(from_date) AS from_date, MAX(to_date) AS to_date from dept_emp group by emp_no	0 row(s) affected	0.531 sec
6	12:34:00	SELECT * FROM employees.dept_emp_latest_date	300025 row(s) returned	0.984 sec / 0.110 sec

Exercise:

Create a view that will extract the average salary of all managers registered in the database. Round this value to the nearest cent.

If you have worked correctly, after executing the view from the “Schemas” section in Workbench, you should obtain the value of 66924.27.

Solution:

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: employees section 5 to 15* dept_emp_latest_date

SCHEMAS

Filter objects

covid

employees

Tables

Views

current_dept_emp

dept_emp_latest_date

Stored Procedures

Functions

sys

Administration Schemas

Information

No object selected

Result Grid

Filter Rows: Exports: Wrap Cell Contents

Result Grid

Result 5

Output

Action Output

#	Time	Action	Message	Duration / Fetch
6	12:34:00	SELECT * FROM employees.dept_emp_latest_date	300025 row(s) returned	0.984 sec / 0.110 sec
7	12:39:22	SELECT ROUND(AVG(salary), 2) FROM salaries s JOIN dept_manager m ON s.emp_no = m.emp_no;	1 row(s) returned	0.359 sec / 0.000 sec

Query Completed

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

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator: employees section 5 to 15* v_manager_avg_salary

SCHEMAS

Filter objects

covid

employees

Tables

Views

current_dept_emp

dept_emp_latest_date

v_dept_emp_latest_date

v_manager_avg_salary

Stored Procedures

Functions

sys

Administration Schemas

Information

No object selected

Result Grid

Filter Rows: Exports: Wrap Cell Contents

Result Grid

Result 1

Output

Action Output

#	Time	Action	Message	Duration / Fetch
8	12:41:31	CREATE OR REPLACE VIEW v_manager_avg_salary AS SELECT ROUND(AVG(salary), 2) FROM employees.v_manager_avg_salary;	0 row(s) affected	0.219 sec
9	12:41:38	SELECT * FROM employees.v_manager_avg_salary	1 row(s) returned	0.016 sec / 0.000 sec

Query Completed

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