



El empleo
es de todos

Mintrabajo

DESARROLLO DE BASE DE DATOS CON MYSQL



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SUBCONSULTAS EN SQL



OBJETIVOS



Después de completar esta lección usted estará en la capacidad de:

- **Definir subconsultas**
- **Enumerar los tipos de subconsultas.**
- **Escribir subconsultas de una sola fila y de varias filas**

USO DE SUBCONSULTAS



```
MariaDB [HR]> SELECT LAST_NAME, SALARY  
-> FROM EMPLOYEES  
-> WHERE SALARY >  
-> (SELECT SALARY  
-> FROM EMPLOYEES  
-> WHERE LAST_NAME='Abel');
```

A red arrow points from the subquery result '\$11000' in the SQL command to the first row of the output table, which is King with a salary of 24000.00.

LAST_NAME	SALARY
King	24000.00
Kochhar	17000.00
De Haan	17000.00
Greenberg	12000.00
Russell	14000.00
Partners	13500.00
Errazuriz	12000.00
Ozer	11500.00
Hartstein	13000.00
Higgins	12000.00

10 rows in set (0.00 sec)

- El salario de Abel es de \$11000
- Lista los empleados que su salario sea mayor al de Abel.

INSTRUCCIONES PARA EL USO DE SUBCONSULTAS



- **Escriba las subconsultas entre paréntesis.**
- **Sitúe la subconsulta a la derecha de la condición de comparación.**
- **La cláusula ORDER BY de la subconsulta no es necesaria a menos que se realice un análisis de los N principales.**
- **Utilice operadores de una fila con subconsultas de una fila y operadores de varias filas con subconsultas de varias filas.**

SUBCONSULTAS DE UNA FILA



- Devuelven una sola fila.
- Utilizan operadores de una fila.

Operador	Significado
=	Igual que
>	Mayor que
>=	Mayor o igual que
<	Menor que
<=	Menor o igual que
<>	Distinto a

EJECUCION DE SUBCONSULTAS DE UNA FILA



```
MariaDB [HR]> SELECT LAST_NAME, JOB_ID, SALARY
-> FROM EMPLOYEES
-> WHERE JOB_ID=
->     (SELECT JOB_ID → ST_CLERK
->      FROM EMPLOYEES WHERE EMPLOYEE_ID=141)
-> AND SALARY > (SELECT SALARY → $2600
->                FROM EMPLOYEES WHERE EMPLOYEE_ID=143);
```

LAST_NAME	JOB_ID	SALARY
Nayer	ST_CLERK	3200.00
Mikkilineni	ST_CLERK	2700.00
Bissot	ST_CLERK	3300.00
Atkinson	ST_CLERK	2800.00
Mallin	ST_CLERK	3300.00
Rogers	ST_CLERK	2900.00
Ladwig	ST_CLERK	3600.00
Stiles	ST_CLERK	3200.00
Seo	ST_CLERK	2700.00
Rajs	ST_CLERK	3500.00
Davies	ST_CLERK	3100.00

11 rows in set (0.01 sec)

USO DE FUNCIONES DE GRUPO EN UNA SUBCONSULTA



```
MariaDB [HR]> SELECT LAST_NAME, JOB_ID, SALARY  
-> FROM EMPLOYEES  
-> WHERE SALARY = (SELECT MIN(SALARY)  
-> FROM EMPLOYEES);
```


 **\$2100**

LAST_NAME	JOB_ID	SALARY
Olson	ST_CLERK	2100.00

1 row in set (0.00 sec)

LA CLAUSULA HAVING CON SUBCONSULTAS



```
MariaDB [HR]> SELECT DEPARTMENT_ID, SALARY  
-> FROM EMPLOYEES  
-> GROUP BY DEPARTMENT_ID  
-> HAVING MIN(SALARY) > (SELECT MIN(SALARY)  $2100  
-> FROM EMPLOYEES WHERE DEPARTMENT_ID=50);
```

DEPARTMENT_ID	SALARY
NULL	7000.00
10	4400.00
20	13000.00
30	11000.00
40	6500.00
60	9000.00
70	10000.00
80	14000.00
90	24000.00
100	12000.00
110	12000.00

11 rows in set (0.01 sec)

SUBCONSULTAS DE VARIAS FILAS



- Devuelven más de una fila.
- Utilizan operadores de comparación de varias filas.

Operador	Significado
IN	Igual que algún miembro de la lista
ANY	Compara el valor con cada valor devuelto por la subconsulta
ALL	Compara el valor con todos los valores devuelto por la subconsulta

USO DEL OPERADOR ANY CON SUBCONSULTAS DE VARIAS FILAS



```
MariaDB [HR]> SELECT EMPLOYEE_ID, LAST_NAME, JOB_ID, SALARY  
-> FROM EMPLOYEES  
-> WHERE SALARY < ANY  
-> (SELECT SALARY  
-> FROM EMPLOYEES WHERE JOB_ID='IT_PROG');
```

EMPLOYEE_ID	LAST_NAME	JOB_ID	SALARY
104	Ernst	IT_PROG	6000.00
105	Austin	IT_PROG	4800.00
106	Pataballa	IT_PROG	4800.00
107	Lorentz	IT_PROG	4200.00
110	Chen	FI_ACCOUNT	8200.00
111	Sciarra	FI_ACCOUNT	7700.00
112	Urman	FI_ACCOUNT	7800.00
113	Popp	FI_ACCOUNT	6900.00

USO DEL OPERADOR ALL CON SUBCONSULTAS DE VARIAS FILAS



```
MariaDB [HR]> SELECT EMPLOYEE_ID, LAST_NAME, JOB_ID, SALARY  
-> FROM EMPLOYEES  
-> WHERE SALARY < ALL  
-> (SELECT SALARY  
-> FROM EMPLOYEES WHERE JOB_ID='IT_PROG');
```

EMPLOYEE_ID	LAST_NAME	JOB_ID	SALARY
115	Khoo	PU_CLERK	3100.00
116	Baida	PU_CLERK	2900.00
117	Tobias	PU_CLERK	2800.00
118	Himuro	PU_CLERK	2600.00
119	Colmenares	PU_CLERK	2500.00
125	Nayer	ST_CLERK	3200.00
126	Mikkilineni	ST_CLERK	2700.00
127	Landry	ST_CLERK	2400.00
128	Markle	ST_CLERK	2200.00
129	Bissot	ST_CLERK	3300.00
130	Atkinson	ST_CLERK	2800.00
131	Marlow	ST_CLERK	2500.00
132	Olson	ST_CLERK	2100.00
133	Mallin	ST_CLERK	3300.00
134	Rogers	ST_CLERK	2900.00
135	Gee	ST_CLERK	2400.00
136	Philtanker	ST_CLERK	2200.00
137	Ladwig	ST_CLERK	3600.00
138	Stiles	ST_CLERK	3200.00
139	Seo	ST_CLERK	2700.00
140	Patel	ST_CLERK	2500.00

USO DEL OPERADOR IN CON SUBCONSULTAS DE VARIAS FILAS




```
MariaDB [HR]> SELECT EMPLOYEE_ID, LAST_NAME, JOB_ID, SALARY  
-> FROM EMPLOYEES  
-> WHERE SALARY IN  
-> (SELECT SALARY  
-> FROM EMPLOYEES WHERE JOB_ID='IT_PROG');
```

EMPLOYEE_ID	LAST_NAME	JOB_ID	SALARY
103	Hunold	IT_PROG	9000.00
104	Ernst	IT_PROG	6000.00
105	Austin	IT_PROG	4800.00
106	Pataballa	IT_PROG	4800.00
107	Lorentz	IT_PROG	4200.00
109	Faviet	FI_ACCOUNT	9000.00
152	Hall	SA_REP	9000.00
158	McEwen	SA_REP	9000.00
184	Sarchand	SH_CLERK	4200.00
202	Fay	MK_REP	6000.00

```
10 rows in set (0.00 sec)
```

VALORES NULOS EN UNA SUBCONSULTAS



```
MariaDB [HR]>  
MariaDB [HR]> SELECT LAST_NAME  
-> FROM EMPLOYEES  
-> WHERE EMPLOYEE_ID NOT IN  NULL  
-> (SELECT MANAGER_ID FROM EMPLOYEES);  
Empty set (0.01 sec)
```

COLUMNAS CON UNA SUBCONSULTAS



```
MariaDB [HR]> SELECT LAST_NAME,  
-> (SELECT DEPARTMENT_NAME FROM DEPARTMENTS WHERE DEPARTMENT_ID=E.DEPARTMENT_ID) DEPARTAMENTO  
-> FROM EMPLOYEES E  
-> WHERE DEPARTMENT_ID=20;
```

LAST_NAME	DEPARTAMENTO
Hartstein	Marketing
Fay	Marketing

2 rows in set (0.00 sec)

TABLAS FALSAS CON SUBCONSULTAS



```
MariaDB [HR]> SELECT EMPLOYEE_ID EMPLEADO, CONCAT(LAST_NAME,' ',FIRST_NAME) NOMBRE,SALARY SALARIO, 3  
-> DEPARTAMENTO,CIUDAD,PAIS,REGION 4  
-> FROM EMPLOYEES E 1  
-> JOIN (  
-> SELECT EMPLOYEE_ID EMPLEADO,DEPARTMENT_NAME DEPARTAMENTO,CITY CIUDAD,COUNTRY_NAME PAIS,REGION_NAME REGION  
-> FROM EMPLOYEES E  
-> NATURAL JOIN DEPARTMENTS D  
-> JOIN LOCATIONS L ON L.LOCATION_ID=D.LOCATION_ID  
-> JOIN COUNTRIES C ON L.COUNTRY_ID=C.COUNTRY_ID  
-> JOIN REGIONS USING(REGION_ID)) J 2  
-> ON J.EMPLEADO=E.EMPLOYEE_ID;
```

EMPLEADO	NOMBRE	SALARIO	DEPARTAMENTO	CIUDAD	PAIS	REGION
150	Tucker Peter	10000.00	Sales	Oxford	United Kingdom	Europe
151	Bernstein David	9500.00	Sales	Oxford	United Kingdom	Europe
152	Hall Peter	9000.00	Sales	Oxford	United Kingdom	Europe
153	Olsen Christopher	8000.00	Sales	Oxford	United Kingdom	Europe
154	Cambrault Nanette	7500.00	Sales	Oxford	United Kingdom	Europe
155	Tuvault Oliver	7000.00	Sales	Oxford	United Kingdom	Europe
202	Fay Pat	6000.00	Marketing	Toronto	Canada	Americas
104	Ernst Bruce	6000.00	IT	Southlake	United States of America	Americas
105	Austin David	4800.00	IT	Southlake	United States of America	Americas
106	Pataballa Valli	4800.00	IT	Southlake	United States of America	Americas
107	Lorentz Diana	4200.00	IT	Southlake	United States of America	Americas



G R A C I A S

Línea de atención al ciudadano: 018000 910270
Línea de atención al empresario: 018000 910682



@SENAcomunica

www.sena.edu.co

CRÉDITOS



Realizado por el instructor José Fernando Galindo Suárez
jgalindos@sena.edu.co 2020

