

Medición comparativa con/sin índice en 3 consultas (igualdad, rango, JOIN)

ANEXO CAPTURAS DE PANTALLA

A continuación se deja un anexo con las capturas de pantalla de la medición comparativa con y sin índice.

En el primer paso limpiamos el caché de la base.

```
SQL File 5*  SQL File 3* x
-- LIMPIAMOS EL CACHE
FLUSH TABLES;
```

Continuamos con las consultas sin índices. (Entre cada consulta se vació el caché)

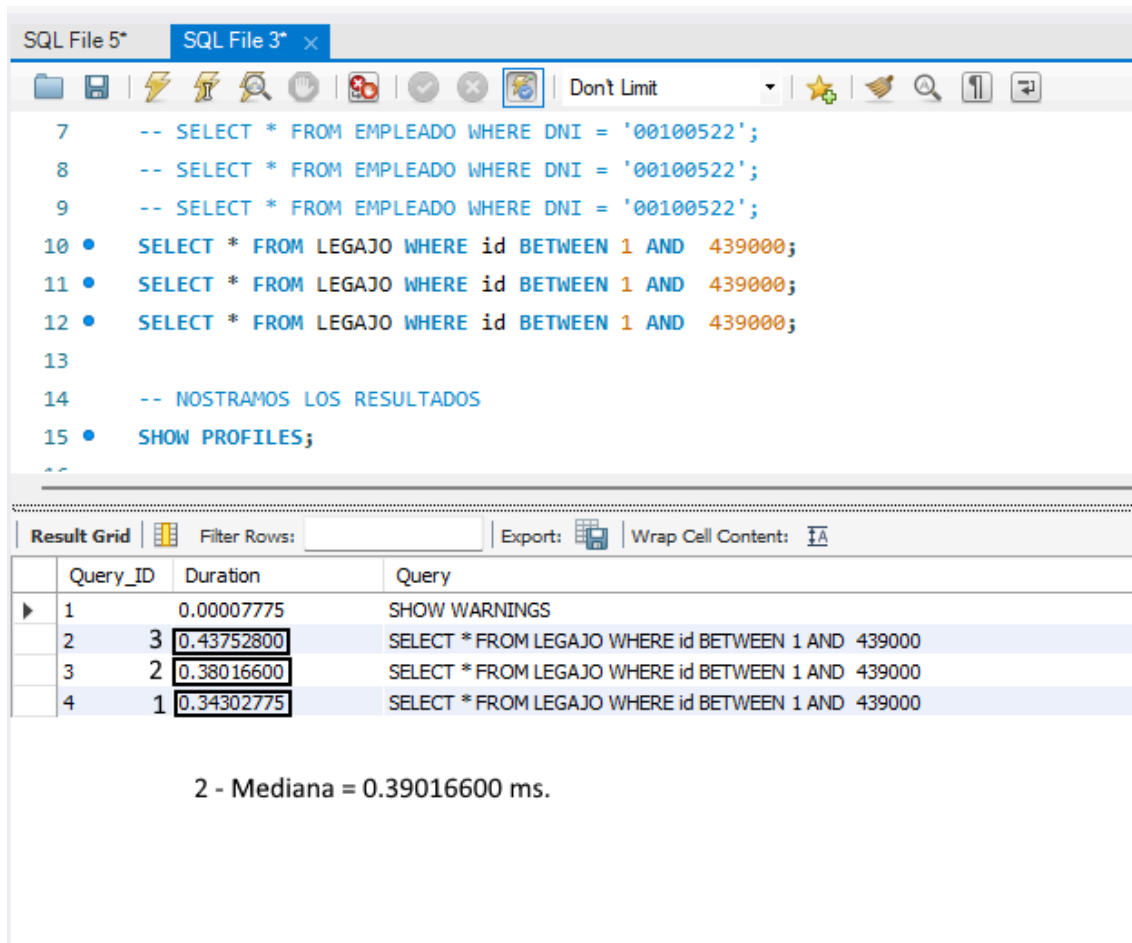
SELECT * con WHERE de la tabla EMPLEADO

```
SQL File 5  SQL File 3 x
SET profiling = 1;
-- EJECUTAMOS LA CONSULTA 3 VECES
SELECT * FROM EMPLEADO WHERE DNI = '00100522';
SELECT * FROM EMPLEADO WHERE DNI = '00100522';
SELECT * FROM EMPLEADO WHERE DNI = '00100522';
-- MOSTRAMOS LOS RESULTADOS
SHOW PROFILES;
```

Query_ID	Duration	Query
1	0.00010025	SHOW WARNINGS
2	3 0.00158200	SELECT * FROM EMPLEADO WHERE DNI = '00100522'
3	2 0.00031075	SELECT * FROM EMPLEADO WHERE DNI = '00100522'
4	1 0.00035350	SELECT * FROM EMPLEADO WHERE DNI = '00100522'

2 - Mediana = 0.00031075 ms.

SELECT * CON BETWEEN



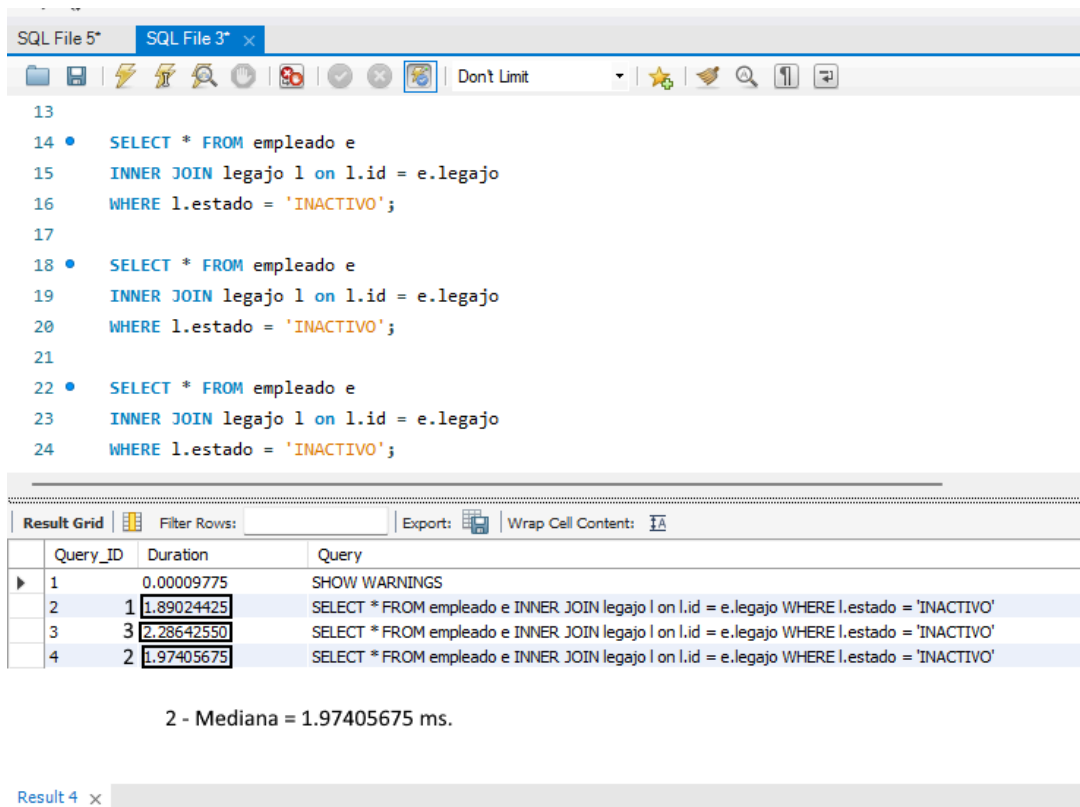
The screenshot shows a SQL IDE window with a query execution plan for a query using the BETWEEN operator. The query is: `SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000;`. The execution plan shows four rows: a warning, the query itself, and two intermediate steps. The duration for the query is 0.34302775 ms.

```
7 -- SELECT * FROM EMPLEADO WHERE DNI = '00100522';
8 -- SELECT * FROM EMPLEADO WHERE DNI = '00100522';
9 -- SELECT * FROM EMPLEADO WHERE DNI = '00100522';
10 • SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000;
11 • SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000;
12 • SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000;
13
14 -- NOSTRAMOS LOS RESULTADOS
15 • SHOW PROFILES;
```

Query_ID	Duration	Query
1	0.00007775	SHOW WARNINGS
2	0.43752800	SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000
3	0.38016600	SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000
4	0.34302775	SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000

2 - Mediana = 0.39016600 ms.

SELECT * CON JOIN



The screenshot shows a SQL IDE window with a query execution plan for a query using the JOIN operator. The query is: `SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO';`. The execution plan shows four rows: a warning, the query itself, and two intermediate steps. The duration for the query is 1.97405675 ms.

```
13
14 • SELECT * FROM empleado e
15 INNER JOIN legajo l on l.id = e.legajo
16 WHERE l.estado = 'INACTIVO';
17
18 • SELECT * FROM empleado e
19 INNER JOIN legajo l on l.id = e.legajo
20 WHERE l.estado = 'INACTIVO';
21
22 • SELECT * FROM empleado e
23 INNER JOIN legajo l on l.id = e.legajo
24 WHERE l.estado = 'INACTIVO';
```

Query_ID	Duration	Query
1	0.00009775	SHOW WARNINGS
2	1.89024425	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'
3	2.28642550	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'
4	1.97405675	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'

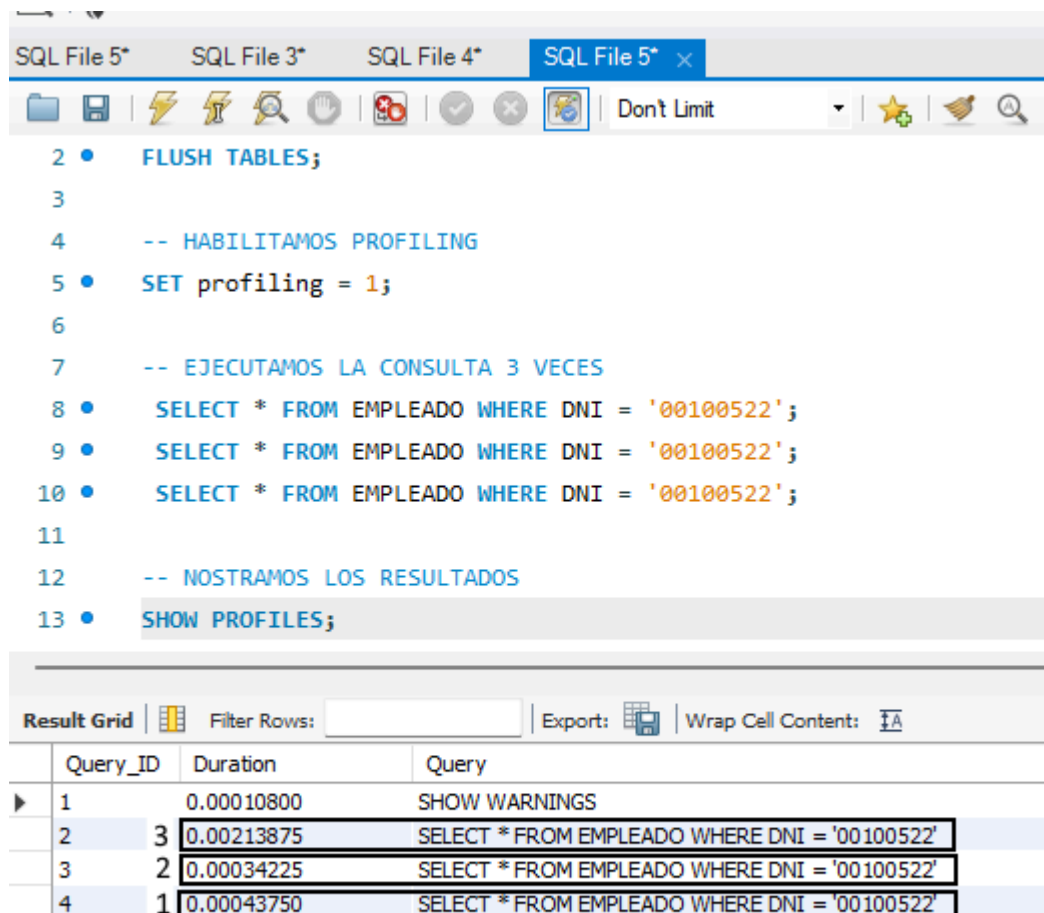
2 - Mediana = 1.97405675 ms.

Luego agregamos los índices a los registros correspondientes.

```
1 -- CREAMOS INDICE EMPLEADO
2 • CREATE INDEX idx_empleado_dni ON Empleado(dni);
3
4 -- CREAMOS INDICE LEGAJO
5 • CREATE INDEX idx_legajo_id ON legajo(id);
6
7 -- CREAMOS INDICE EMPLEADO LEGAJO
8 • CREATE INDEX idx_empleado_legajo ON Empleado(legajo);
9
10
```

Y continuamos con las consultas con índices.

SELECT * con WHERE



The screenshot shows a SQL IDE interface. The top toolbar includes icons for file operations, execution, and search. The script editor contains the following SQL commands:

```
2 • FLUSH TABLES;
3
4 -- HABILITAMOS PROFILING
5 • SET profiling = 1;
6
7 -- EJECUTAMOS LA CONSULTA 3 VECES
8 • SELECT * FROM EMPLEADO WHERE DNI = '00100522';
9 • SELECT * FROM EMPLEADO WHERE DNI = '00100522';
10 • SELECT * FROM EMPLEADO WHERE DNI = '00100522';
11
12 -- MOSTRAMOS LOS RESULTADOS
13 • SHOW PROFILES;
```

Below the script editor is the 'Result Grid' section. It includes a 'Filter Rows' input field, an 'Export' button, and a 'Wrap Cell Content' checkbox. The grid displays the following data:

	Query_ID	Duration	Query
▶	1	0.00010800	SHOW WARNINGS
	2	3	0.00213875 SELECT * FROM EMPLEADO WHERE DNI = '00100522'
	3	2	0.00034225 SELECT * FROM EMPLEADO WHERE DNI = '00100522'
	4	1	0.00043750 SELECT * FROM EMPLEADO WHERE DNI = '00100522'

2 - Mediana = 0.00034225 s.

SELECT * CON BETWEEN

SQL File 5* SQL File 3* SQL File 4* SQL File 5* x

Don't Limit

```

2 • FLUSH TABLES;
3
4 -- HABILITAMOS PROFILING
5 • SET profiling = 1;
6
7 -- EJECUTAMOS LA CONSULTA 3 VECES
8 • SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000;
9 • SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000;
10 • SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000;
11
12 -- MOSTRAMOS LOS RESULTADOS
13 • SHOW PROFILES;

```

Result Grid Filter Rows: Export: Wrap Cell Content: [fA](#)

Query_ID	Duration	Query
1	0.00007600	SHOW WARNINGS
2	0.34151625	SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000
3	0.32236450	SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000
4	0.35235000	SELECT * FROM LEGAJOS WHERE id BETWEEN 1 AND 439000

2 - Mediana = 0.34151625 s.

SELECT * CON JOIN

SQL File 5* SQL File 3* SQL File 4* SQL File 5* x

Don't Limit

```

10 WHERE l.estado = 'INACTIVO';
11
12 • SELECT * FROM empleado e
13 INNER JOIN legajo l on l.id = e.legajo
14 WHERE l.estado = 'INACTIVO';
15
16 • SELECT * FROM empleado e
17 INNER JOIN legajo l on l.id = e.legajo
18 WHERE l.estado = 'INACTIVO';
19
20 -- MOSTRAMOS LOS RESULTADOS
21 • SHOW PROFILES;

```

Result Grid Filter Rows: Export: Wrap Cell Content: [fA](#)

Query_ID	Duration	Query
1	0.00007850	SHOW WARNINGS
2	1.73980425	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'
3	2.57726200	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'
4	2.59498750	SELECT * FROM empleado e INNER JOIN legajo l on l.id = e.legajo WHERE l.estado = 'INACTIVO'

2 - Mediana = 2.57726200 s.

Result 4 x

EXPLAIN

```
1  -- LIMPIAMOS EL CACHE
2  • FLUSH TABLES;
3
4  -- HABILITAMOS PROFILING
5  • SET profiling = 1;
6
7  -- EJECUTAMOS EXPLAIN
8  • EXPLAIN
9  -- ANALYZE
10 SELECT * FROM EMPLEADO WHERE DNI = '00100522';
11
12
13 -- SELECT * FROM LEGAJO WHERE id BETWEEN 1 AND 439000;
14
15
16 -- SELECT * FROM empleado e
17 -- INNER JOIN legajo l on l.id = e.legajo
18 -- WHERE l.estado = 'INACTIVO';
19
20
21 -- MOSTRAMOS LOS RESULTADOS
22 • SHOW PROFILES;
```

	id	select_type	table	partitions	type	possible_keys	key	key_len	ref	rows	filtered	Extra
▶	1	SIMPLE	EMPLEADO	NULL	const	dni,idx_empleado_dni	dni	62	const	1	100.00	NULL

	id	select_type	table	partitions	type	possible_keys	key	key_len	ref	rows	filtered	Extra
▶	1	SIMPLE	LEGAJO	NULL	range	PRIMARY,idx_legajo_id	PRIMARY	8	NULL	234619	100.00	Using where

	id	select_type	table	partitions	type	possible_keys	key	key_len	ref	rows	filtered	Extra
▶	1	SIMPLE	l	NULL	ALL	PRIMARY,idx_legajo_id	NULL	NULL	NULL	469239	50.00	Using where
	1	SIMPLE	e	NULL	eq_ref	legajo,idx_empleado_legajo	legajo	9	tbl_ddbb.l.id	1	100.00	NULL