

Exercise 2

1) Query without GIN and GiST indexes:

1

EXPLAIN ANALYZE SELECT * FROM customers_review

2

WHERE to_tsvector('english', review) @@ plainto_tsquery('project');

Data Output

Explain

Messages

Notifications

	QUERY PLAN	
	text	
1	Gather (cost=1000.00..34231.06 rows=500 width=211) (actual time=0.715..3369.096 rows=2218 loops=1)	
2	Workers Planned: 1	
3	Workers Launched: 1	
4	-> Parallel Seq Scan on customers_review (cost=0.00..33181.06 rows=294 width=211) (actual time=8.959..3313.370 rows=...	
5	Filter: (to_tsvector('english':regconfig, review) @@ plainto_tsquery('project':text))	
6	Rows Removed by Filter: 48891	
7	Planning Time: 0.847 ms	
8	Execution Time: 3369.760 ms	

2) GIN index:

1

EXPLAIN ANALYZE SELECT * FROM customers_review

2

WHERE to_tsvector('english', review) @@ plainto_tsquery('project'

Data Output

Explain

Messages

Notifications

	QUERY PLAN	
	text	
1	Bitmap Heap Scan on customers_review (cost=16.13..1579.53 rows=500 width=211) (actual time=0.888..3.317 rows=2218 lo...	
2	Recheck Cond: (to_tsvector('english':regconfig, review) @@ plainto_tsquery('project':text))	
3	Heap Blocks: exact=1584	
4	-> Bitmap Index Scan on gin_review_index (cost=0.00..16.00 rows=500 width=0) (actual time=0.601..0.602 rows=2218 loop...	
5	Index Cond: (to_tsvector('english':regconfig, review) @@ plainto_tsquery('project':text))	
6	Planning Time: 1.324 ms	
7	Execution Time: 3.471 ms	

3) GiST index:

```
1 EXPLAIN ANALYZE SELECT * FROM customers_review
2 WHERE to_tsvector('english', review) @@ plainto_tsquery('project');
```

Data Output	Explain	Messages	Notifications
	<div><div>QUERY PLAN</div><div>text</div><div>1 Bitmap Heap Scan on customers_review (cost=36.41..1599.81 rows=500 width=211) (actual time=19.044..153.499 rows=22...</div><div>2 Recheck Cond: (to_tsvector('english':regconfig, review) @@ plainto_tsquery('project':text))</div><div>3 Heap Blocks: exact=1584</div><div>4 -> Bitmap Index Scan on gin_review_index (cost=0.00..36.28 rows=500 width=0) (actual time=18.713..18.713 rows=2218 lo...</div><div>5 Index Cond: (to_tsvector('english':regconfig, review) @@ plainto_tsquery('project':text))</div><div>6 Planning Time: 1.783 ms</div><div>7 Execution Time: 153.880 ms</div></div>		

Result: both - GIN and GiST - affects on performance and makes it faster in several times(in terms of cost)