MongoDB: Query optimization

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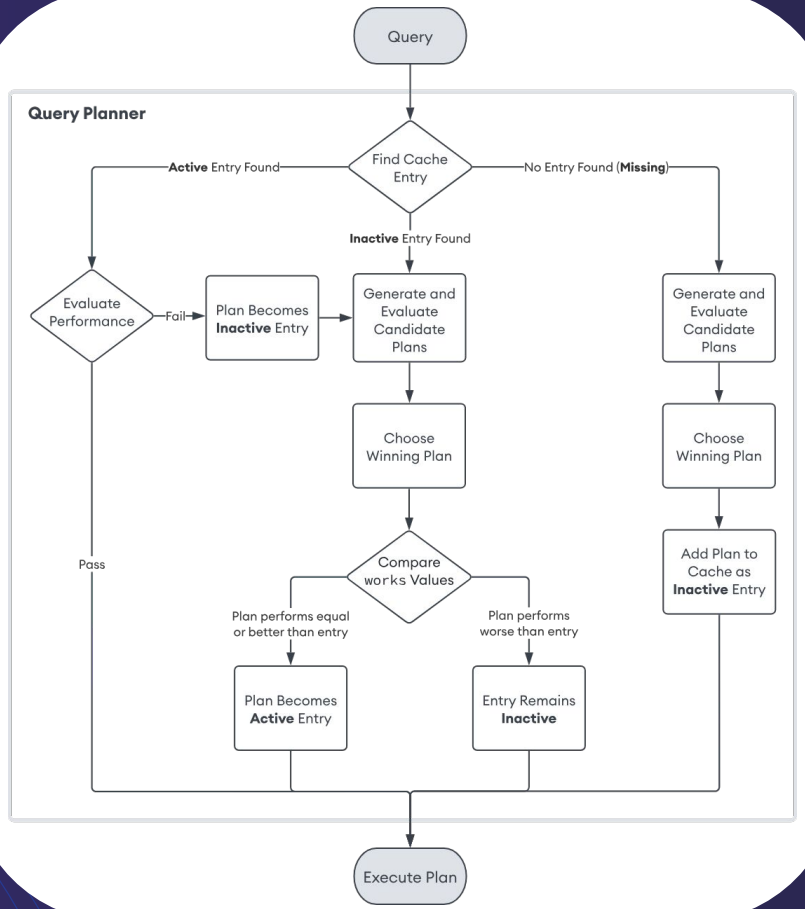
01

Query optimization used by Mongo

Query Planner



Active entry found

Needs to be evaluated first!

Inactive entry found

Let's try a better plan

No entry found

Generate the best plan

02

Differences

between *Postgres* and *Mongo*

Differences

Types of indexes

MONGO: More variety
POSTGRES: Traditional

Data model

MONGO: Documents
POSTGRES: Relational model

Query planning

MONGO: Try multiple plans
POSTGRES: Statistics plans

03 Index based

Index


```
{ score: 1 } Index
```

Single Field


```
{ userid: 1, score: -1 } Index
```

Compound


```
{ "addr.zip": 1 } Index
```

Multikey

2DSPHERE: Geometry on a sphere (earth-type)

2D: Geometry on a flat surface.

Geospatial

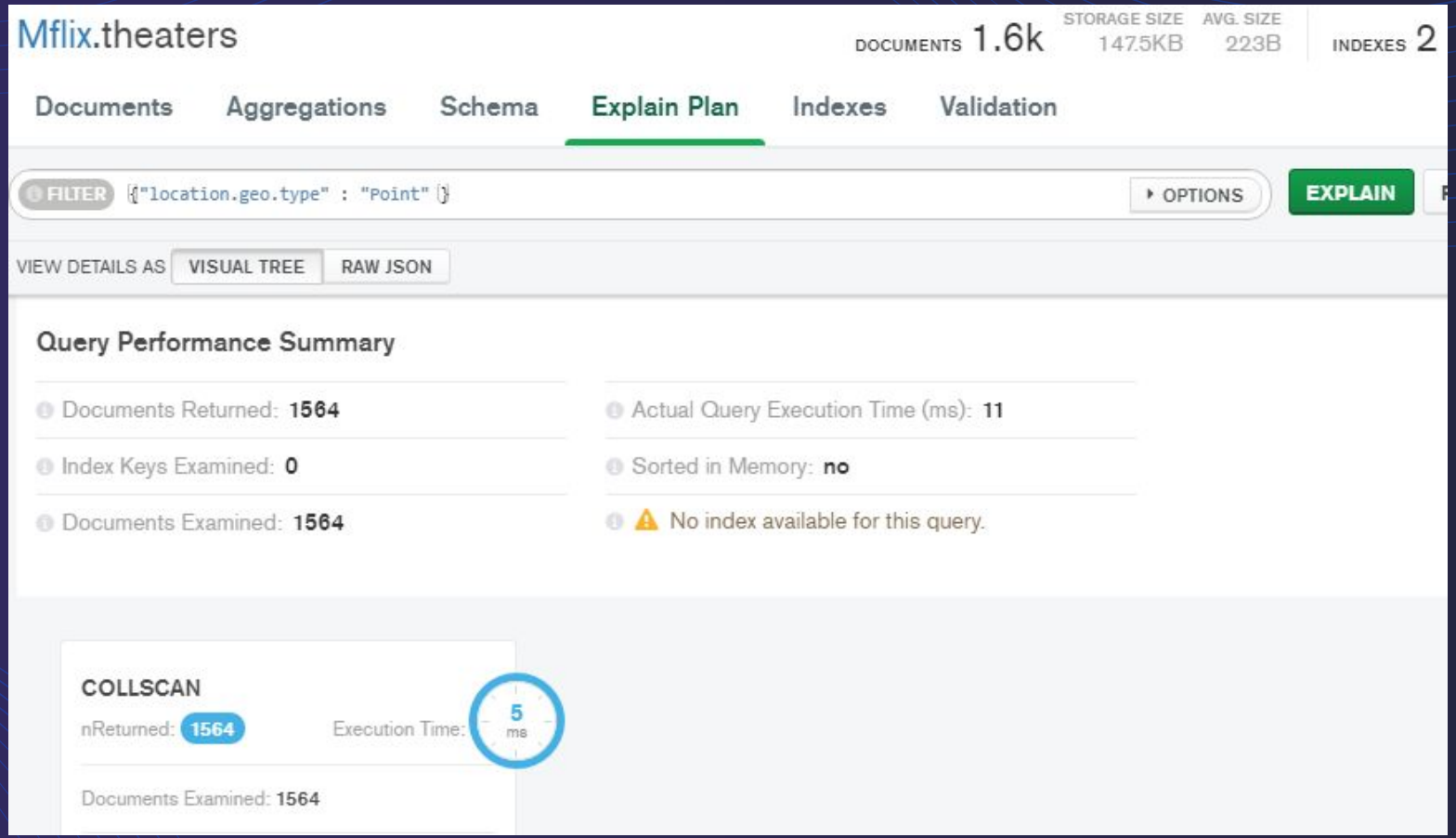
Geospatial

geo

coordinates

04

Analysis and verification of queries


Mflix.theaters
DOCUMENTS 1.6k
STORAGE SIZE 147.5KB
AVG. SIZE 223B
INDEXES 2
Documents
Aggregations
Schema
Explain Plan
Indexes
Validation
FILTER
{"location.geo.type" : "Point" }
OPTIONS
EXPLAIN
VIEW DETAILS AS
VISUAL TREE
RAW JSON
Query Performance Summary
Documents Returned: 1564
Index Keys Examined: 0
Documents Examined: 1564
Actual Query Execution Time (ms): 11
Sorted in Memory: no
No index available for this query.
COLLSCAN
nReturned: 1564
Execution Time: 5 ms
Documents Examined: 1564

05

Live Demonstration

MongoFlix database

Thanks!

Any questions?