Introduction to MongoDB Indexing

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Overview

Mongo indexes

Indexing a collection
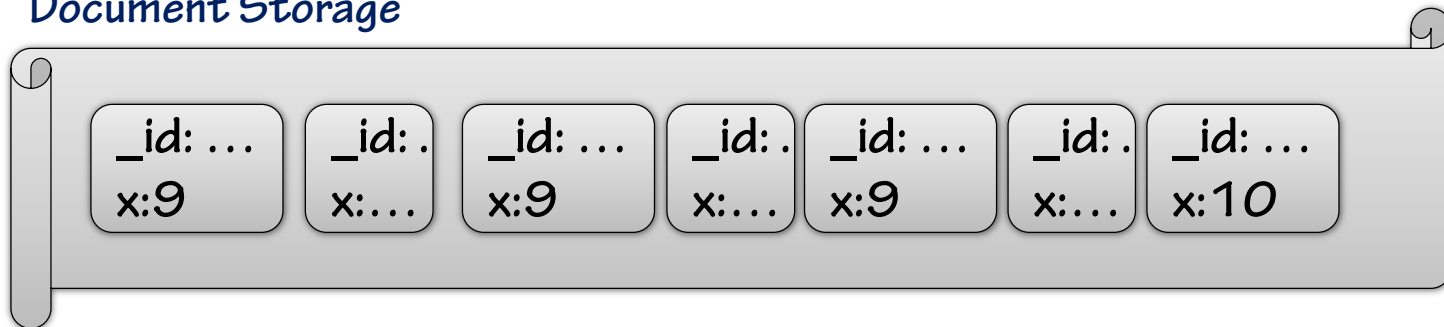
Usage by queries

The Problem

- **You say:**

```
db.foo.find({ x: 10 })
```

- **The server does : (pseudo)**

```
for each doc d in 'foo'{
    if ( d.x == 10 ){
        return d
    }
}
```

Ouch!
Reads EVERY document!

Document Storage

| _id: … x:9 | _id: . x:… | _id: … x:9 | _id: . x:… | _id: … x:9 | _id: . x:… | _id: … x:10 |

The Solution

Index - field 'x', collection 'foo'

Value	Doc Pointers
9	[171, 819, 2309]
10	[4376]

db.*foo*.find({ x:10 })

Document Storage

| _id: … x:9 | _id: . x:… | _id: … x:9 | _id: . x:… | _id: … x:9 | _id: . x:… | _id: … x:10 |
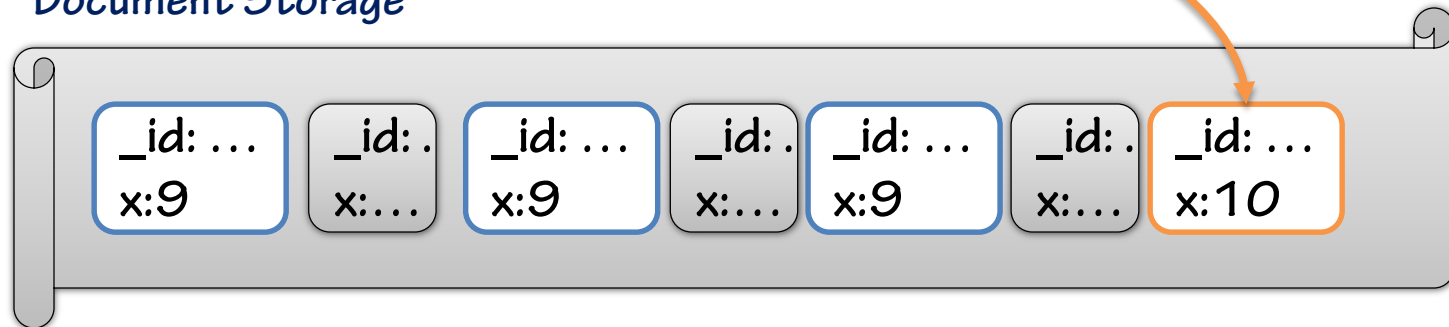
Indexes In Mongo

Create Index

Which fields?
In what Order?
Geo / Text

db.*foo*.ensureIndex(*keys, options*)

Collection

Name?
Build now?
Unique
Sparse?
TTL?
Language?

Summary

- **What are indexes**
- **How to create and use them**

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Use Indexes!

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Conclusion

MongoDB and relational databases

Running the server

Data manipulation

Rich querying

Indexing