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WEB 335 Introduction to NoSQL

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Discussion 6.1

In MongoDB, (and really any database), it is important to optimize performance for efficiency and speed. One way to do this is through the use of indexes

What are indexes?

Indexes are a way to organize and structure data in a database for faster search and retrieval. They act like an index in a book, helping you to quickly find the information you need without having to read through the entire book. In MongoDB, indexes can be created on one or more fields in a collection to help optimize queries and speed up data retrieval.

Why are indexes used and how are they created in MongoDB?

Indexes are used to improve performance by reducing the amount of data that needs to be scanned when executing a query. When an index is created, MongoDB will create a data structure that maps the indexed fields to their corresponding values. This makes it possible to search for specific data quickly and efficiently.

What is index cardinality?

Index cardinality is a measure of the uniqueness of the values in an index. An index with high cardinality has many unique values, while an index with low cardinality has few unique values. In general, indexes with high cardinality are more useful for queries because they can help to narrow down the search results more quickly.

What are capped collections? And when should they be used?

Capped collections are a type of collection in MongoDB that have a fixed size. When the collection reaches its maximum size, the oldest documents will be automatically deleted to make room for new ones. Capped collections are useful for scenarios where you must store a fixed amount of data, such as logging or monitoring applications.

What are sparse indexes?

Sparse indexes are indexes that only contain entries for documents that have the indexed field. This can be useful for fields that are not present in all documents in a collection. Sparse indexes take up less space than non-sparse indexes because they only contain entries for documents that have the indexed field.

References

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