Indexing in MongoDB prevents the database from having to scan every document in a collection every time there is a query. This leads to much more efficient returns on queries. These indexes can be used to sort documents in collections in either ascending or descending order by field, depending on how they are set. One important thing to note, is that you cannot rename an index, but rather you must drop it and create a new one in order to change the index name.

“Index cardinality refers to the uniqueness of values stored in a specified column within an index.” (MySQL Tutorial, 2020) In MySQL, the query optimizer uses this index cardinality to decide if it will use the index in the join operations.

Capped collections are collections of a fixed size. They operate rather like a rotating storage vessel. As they reach their capacity, they make room for new data by overwriting the documents they have had in the collection the longest. You also can’t delete documents from these collections, but rather you must drop the collection and recreate it without the document. These collections are best used for high volume data collections such as log files and cache data.

The primary difference between sparse and dense indexes is, as the name implies, in volume. The Sparse Index can only be built on the ordered field of the index, based on the first record of the block, also known as the anchor record. The Dense Index on the other hand has an entry for every search key value in the database.

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