



Index in MongoDB

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Index

- Just like any other database, Index help the MongoDB for efficient and quick execution of queries
- In absence of Index, MongoDB must perform a *collection scan*, i.e. scan every document in a collection, to select those documents that match the query statement.
- This is really a timer consuming task, specially when number of documents in a collection are in thousands and lakhs
- The index stores the value of a specific field or set of fields, ordered by the value of the field. The ordering of the index entries supports efficient equality matches and range-based query operations
- You can create Index in both order i.e. ascending and descending order

Index

- **Primary Index**
- MongoDB creates a **unique index** on the **_id** field during the creation of a collection. The **_id** index prevents clients from inserting two documents with the same value for the **_id** field.
- **You cannot drop this index on the **_id** field.**

Index Types

- **Single Field Index**

- In this case Index is created using single field

- `db.Author.createIndex({AuthorName:-1})`

- This command will create the Index only on single field i.e. AuthorName

Index Types

➤ Single Field Index

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Index Types

➤ Compound Index

- In this case Index is created using **Multiple** fields
- `db.Author.createIndex({AuthorName: 1, Gender:1 })`
- This command will create the Index only on MULTIPLE fields i.e. AuthorName and Gender
- Sorting will get performed in the manner you specify in createIndex command i.e. in above example first on AuthorName and then on Gender

Index Types

➤ Multikey Index

- This type of index gets created when Indexed field is holds the array value

➤ Geospatial Index

- To support efficient queries of geospatial coordinate data
 - Two Types
 - **2d indexes** - Uses planar geometry when returning results
 - **2dsphere indexes** - Use spherical geometry to return results

Index Types

➤ Text Index

- Supports searching for string content in a collection

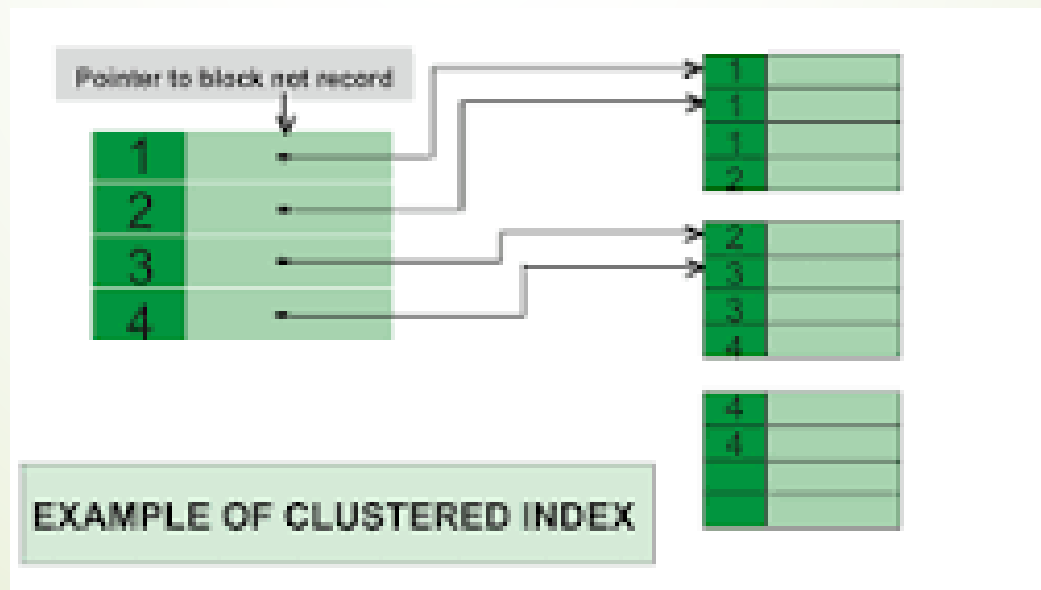
➤ Hashed Indexes

- To support the hash of the value of a field

Index Types

► Clustered Index

- A clustering index is an index that stores the entire document, not just the defined key
- In clustered index, index contains pointer to block but not direct data



Hidden Index

- Used to know the impact of dropping the Index without actually dropping the Index
- In order to check the difference of performance with and without index, one can hide and unhide the index
- When Hidden, Index will not be used during query
- Index on `_id` can not be dropped