MONGODB - INDEXING

Indexes support the efficient resolution of queries. Without indexes, MongoDB must scan every document of a collection to select those documents that match the query statement. This scan is highly inefficient and require the mongodb to process a large volume of data.

Indexes are special data structures, that store a small portion of the data set in an easy to traverse form. The index stores the value of a specific field or set of fields, ordered by the value of the field as specified in index.

The ensureIndex Method

To create an index you need to use ensureIndex method of mongodb.

Syntax:

Basic syntax of **ensureIndex** method is as follows

```
>db.COLLECTION_NAME.ensureIndex({KEY:1})
```

Here key is the name of filed on which you want to create index and 1 is for ascending order. To create index in descending order you need to use -1.

Example

```
>db.mycol.ensureIndex({"title":1})
>
```

In **ensureIndex** method you can pass multiple fields, to create index on multiple fields.

```
>db.mycol.ensureIndex({"title":1,"description":-1})
>
```

ensureIndex method also accepts list of options *whichareoptional*, whose list is given below:

Parameter	Type	Description
background	Boolean	Builds the index in the background so that building an index does not block other database activities. Specify true to build in the background. The default value is **false**.
unique	Boolean	Creates a unique index so that the collection will not accept insertion of documents where the index key or keys match an existing value in the index. Specify true to create a unique index. The default value is **false**.
name	string	The name of the index. If unspecified, MongoDB generates an index name by concatenating the names of the indexed fields and the sort order.
dropDups	Boolean	Creates a unique index on a field that may have duplicates. MongoDB indexes only the first occurrence of a key and removes all documents from the collection that contain subsequent occurrences of that key. Specify true to create unique index. The default value is **false**.
sparse	Boolean	If true, the index only references documents with the specified field. These indexes use less space but behave differently in some situations *particularlysorts*. The default value

		is **false**.
expireAfterSeconds	integer	Specifies a value, in seconds, as a TTL to control how long MongoDB retains documents in this collection.
v	index version	The index version number. The default index version depends on the version of mongodb running when creating the index.
weights	document	The weight is a number ranging from 1 to 99,999 and denotes the significance of the field relative to the other indexed fields in terms of the score.
default_language	string	For a text index, the language that determines the list of stop words and the rules for the stemmer and tokenizer. The default value is **english**.
language_override	string	For a text index, specify the name of the field in the document that contains, the language to override the default language. The default value is language.

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