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Practical 6 : Indexing In MongoDB

-Indexes can be created using the createIndex() method or by specifying indexes in a document's schema

for collections using MongoDB's schema validation feature.

-Suppose the document is like

{

\_id: ObjectId('66104eb5704ada6a58271bda'),

name: 'Everest',

height: 8848,

location: [ 'Nepal', 'China' ],

ascents: {

first: { year: 1953 },

first\_winter: { year: 1980 },

total: 5656

}

db.peaks.find(

{ "height": { $gt: 8700 } }

).explain("executionStats")

This operation returns a lot of information.

— Creating a Single Field Index

db.peaks.createIndex( { "height": 1 } )

height\_1

-Retrieve the list of created indexes

student> db.peaks.getIndexes()

[

{ v: 2, key: { \_id: 1 }, name: '\_id\_' },

{ v: 2, key: { height: 1 }, name: 'height\_1' }

]

-Find documents where hight greater then 8700

db.peaks.find(

{ "height": { $gt: 8700 } }

).explain("executionStats")

{

explainVersion: '1',

queryPlanner: {

namespace: 'student.peaks',

indexFilterSet: false,

parsedQuery: { name: { '$eq': 'Everest' } },

queryHash: 'A2F868FD',

planCacheKey: 'A2F868FD',

maxIndexedOrSolutionsReached: false,

maxIndexedAndSolutionsReached: false,

maxScansToExplodeReached: false,

winningPlan: {

stage: 'COLLSCAN',

filter: { name: { '$eq': 'Everest' } },

direction: 'forward'

},

rejectedPlans: []

},

executionStats: {

executionSuccess: true,

nReturned: 1,

executionTimeMillis: 0,

totalKeysExamined: 0,

totalDocsExamined: 5,

executionStages: {

stage: 'COLLSCAN',

filter: { name: { '$eq': 'Everest' } },

nReturned: 1,

executionTimeMillisEstimate: 0,

works: 6,

advanced: 1,

needTime: 4,

needYield: 0,

saveState: 0,

restoreState: 0,

isEOF: 1,

direction: 'forward',

docsExamined: 5

}

},

command: { find: 'peaks', filter: { name: 'Everest' }, '$db': 'student' },

serverInfo: {

host: 'LAPTOP-1C3IMV0U',

port: 27017,

version: '7.0.5',

gitVersion: '7809d71e84e314b497f282ea8aa06d7ded3eb205'

},

serverParameters: {

internalQueryFacetBufferSizeBytes: 104857600,

internalQueryFacetMaxOutputDocSizeBytes: 104857600,

internalLookupStageIntermediateDocumentMaxSizeBytes: 104857600,

internalDocumentSourceGroupMaxMemoryBytes: 104857600,

internalQueryMaxBlockingSortMemoryUsageBytes: 104857600,

internalQueryProhibitBlockingMergeOnMongoS: 0,

internalQueryMaxAddToSetBytes: 104857600,

internalDocumentSourceSetWindowFieldsMaxMemoryBytes: 104857600,

internalQueryFrameworkControl: 'trySbeRestricted'

},

ok: 1

}

-Deleting the index

db.peaks.dropIndex('height\_1')

{ nIndexesWas: 2, ok: 1 }

student> student> db.peaks.getIndexes()

[ { v: 2, key: { \_id: 1 }, name: '\_id\_' } ]

student>