SCANS IN MongoDB

Types of Scan

- COLLSCAN

    Scans the each document in the collection for processing query

    `COLLSCAN` for a collection scan

- IXSCAN

    Process the queries based on the indexes and scans the indexes for results

    `IXSCAN` for scanning index keys

COLLSCAN

```
> db.contacts.explain("executionStats").find({gender:"male"})
{
        "queryPlanner" : {
                "plannerVersion" : 1,
                "namespace" : "contactData.contacts",
                "indexFilterSet" : false,
                "parsedQuery" : {
                        "gender" : {
                                "$eq" : "male"
                        }
                },
                "winningPlan" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "gender" : {
                                        "$eq" : "male"
                                }
                        },
                        "direction" : "forward"
                },
                "rejectedPlans" : [ ]
        },
        "executionStats" : {
                "executionSuccess" : true,
                "nReturned" : 2435,
                "executionTimeMillis" : 602,
                "totalKeysExamined" : 0,
                "totalDocsExamined" : 5000,
                "executionStages" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "gender" : {
                                        "$eq" : "male"
                                }
                        },
                        "nReturned" : 2435,
                        "executionTimeMillisEstimate" : 583,
                        "works" : 5002,
                        "advanced" : 2435,
                        "needTime" : 2566,
                        "needYield" : 0,
                        "saveState" : 18,
```

IXSCAN

```
> db.contacts.explain("executionStats").find({gender:"male"})
{
        "queryPlanner" : {
                "plannerVersion" : 1,
                "namespace" : "contactData.contacts",
                "indexFilterSet" : false,
                "parsedQuery" : {
                        "gender" : {
                                "$eq" : "male"
                        }
                },
                "winningPlan" : {
                        "stage" : "FETCH",
                        "inputStage" : {
                                "stage" : "IXSCAN",
                                "keyPattern" : {
                                        "gender" : 1
                                },
                                "indexName" : "gender_1",
                                "isMultiKey" : false,
                                "multiKeyPaths" : {
                                        "gender" : [ ]
                                },
                                "isUnique" : false,
                                "isSparse" : false,
                                "isPartial" : false,
                                "indexVersion" : 2,
                                "direction" : "forward",
                                "indexBounds" : {
                                        "gender" : [
                                                "[\"male\", \"male\"]"
                                        ]
                                }
                        }
                },
                "rejectedPlans" : [ ]
        },
        "executionStats" : {
                "executionSuccess" : true,
                "nReturned" : 2435,
                "executionTimeMillis" : 125,
                "totalKeysExamined" : 2435,
                "totalDocsExamined" : 2435,
```