# 04 Indexación: Índices multikey

To index a field that holds an array value, MongoDB creates an index key for each element in the array. These multikey indexes support efficient queries against array fields. Multikey indexes can be constructed over arrays that hold both scalar values [1] (e.g. strings, numbers) and nested documents.

Sintaxis

db.coll.createIndex( { <field>: < 1 or -1 > } )

Práctica

```
> db.productos.insert({nombre: "Sudadera FTR34", marca: "nike", stock: [{color:
"azul", talla: "xs", cantidad: 2}, {color: "azul", talla: "l", cantidad: 12}], categorias:
["mujer","ropa"]})
WriteResult({ "nInserted" : 1 })

> db.productos.createIndex({stock: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}

> db.productos.createIndex({categorias: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 2,
        "numIndexesAfter" : 3,
        "ok" : 1
}
```

## Compound Multikey Indexes

For a compound multikey index, each indexed document can have at most one indexed field whose value is an array.

You cannot create a compound multikey index if more than one to-be-indexed field of a document is an array.

Práctica

```
> db.productos.dropIndexes()
{
        "nIndexesWas" : 3,
        "msg" : "non-_id indexes dropped for collection",
        "ok" : 1
}

> db.productos.createIndex({categorias: 1, stock: 1})
{
        "ok" : 0,
        "errmsg" : "cannot index parallel arrays [stock] [categorias]",
        "code" : 171,
        "codeName" : "CannotIndexParallelArrays"
}
```

Or, if a compound multikey index already exists, you cannot insert a document that would violate this restriction.

Práctica

```
> db.productos.createIndex({nombre: 1, categorias: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}

> db.productos.insert({nombre: ["Camiseta FRVT","FRVT T-shirt"], categorias: ["ropa","mujer"]})
WriteResult({
        "nInserted" : 0,
        "writeError" : {
                "code" : 171,
                "errmsg" : "cannot index parallel arrays [categorias] [nombre]"
        }
})
```