03 Colecciones no-sharded en un Sharding cluster

A database can have a mixture of sharded and unsharded collections. Sharded collections are partitioned and distributed across the shards in the cluster. Unsharded collections are stored on a primary shard. Each database has its own primary shard.

Each database in a sharded cluster has a primary shard that holds all the un-sharded collections for that database. Each database has its own primary shard. The primary shard has no relation to the primary in a replica set.

Podemos comprobar que bases de datos están particionadas y cual es su shard primario con:

mongos> use config

mongos> db.databases.find()
{ "_id" : "test", "primary" : "shard0000", "partitioned" : false, "version" : { "uuid" : UUID("5cce2b19-6c83-4b94-b2a9-e55f7a4c05e2"), "lastMod" : 1 } }
{ "_id" : "shop", "primary" : "shard0001", "partitioned" : true, "version" : { "uuid" : UUID("b6cfa4d1-2028-4275-8b1f-bed9d9eb2344"), "lastMod" : 1 } }

The mongos selects the primary shard when creating a new database by picking the shard in the cluster that has the least amount of data. mongos uses the totalSize field returned by the listDatabase command as a part of the selection criteria.

You must connect to a mongos router to interact with any collection in the sharded cluster. This includes sharded and unsharded collections. Clients should never connect to a single shard in order to perform read or write operations.

You can connect to a mongos the same way you connect to a mongod, such as via the mongo shell or a MongoDB driver.

Por ejemplo desde mongos podemos crear una colección no-sharded:

```
mongos> db.createCollection("productos")
{
	"ok" : 1,
	"operationTime" : Timestamp(1580847203, 4),
	"$clusterTime" : {
		"clusterTime" : Timestamp(1580847203, 4),
		"signature" : {
			"hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAAA="),
			"keyId" : NumberLong(0)
		}
	}
}
```

Podemos excepcionalmente conectarnos a uno de los dos servidores shard para comprobar cómo solo se encuentra en uno de ellos.