Chapter 3: Sharding

Lab - Detect Scatter Gather Queries

Problem:

Lab Prerequisites

This lab assumes that the `m103.products` collection is sharded on `sku`. If you sharded on `name` instead, you must reimport the dataset and shard it on `sku`. Here are the instructions to do this:

1. Drop the collection `m103.products` and reimport the dataset:

```
mongoimport --drop /dataset/products.json --port 26000 -u "m103-
admin" \
-p "m103-pass" --authenticationDatabase "admin" \
--db m103 --collection products
```

COPY

2. Create an index on `sku`:

```
db.products.createIndex({"sku":1})
```

COPY

3. Enable sharding on m103 if not enabled:

```
sh.enableSharding("m103")
```

4. Shard the collection on `sku`:

```
db.adminCommand({shardCollection: "m103.products", key: {s
```

COPY

Once you've sharded your cluster on `sku`, any queries that use `sku` will be routed by mongos to the correct shards.

Lab Description

In this lab, you will use the output of the `explain()` command to distinguish between *targeted queries* (sent to specific shards) and *scatter gather queries* (sent to all shards).

Here are a few definitions regarding the output of `explain()`:

- `SHARDING_FILTER`: The step performed by mongos used to make sure that documents

Correct! SEE DETAILED ANSWER

- `IXSCAN`: An index scan, used to scan through index keys.

- `FETCH`: A document fetch, used to retrieve an entire document because one or more of the fields is necessary.

You can find more information about `explain()` in the official MongoDB documentation.

Now, given the `explain()` output of the following two queries:

Query 1:

```
db.products.explain("executionStats").find({"sku": 2315349
```

COPY

Query 2:

```
db.products.explain("executionStats").find({"shippingWeigh
```

COPY

Assuming the only indexes on this collection are `{ _id: 1 }` and `{ sku: 1 }`, which of the following statements are true?

Attempts Remaining: Correct Answer

Check all answers that apply:

- [x] Query 1 performs an index scan before the sharding filter.
- [ ] Query 2 uses the shard key.
- [x] Query 2 performs a collection scan.

See detailed answer

Proceed to next section

Assignment is Due

18d:01hr:14m
Dec 17, 17:00 UTC

Your Grade

PASS/FAIL
Submitted