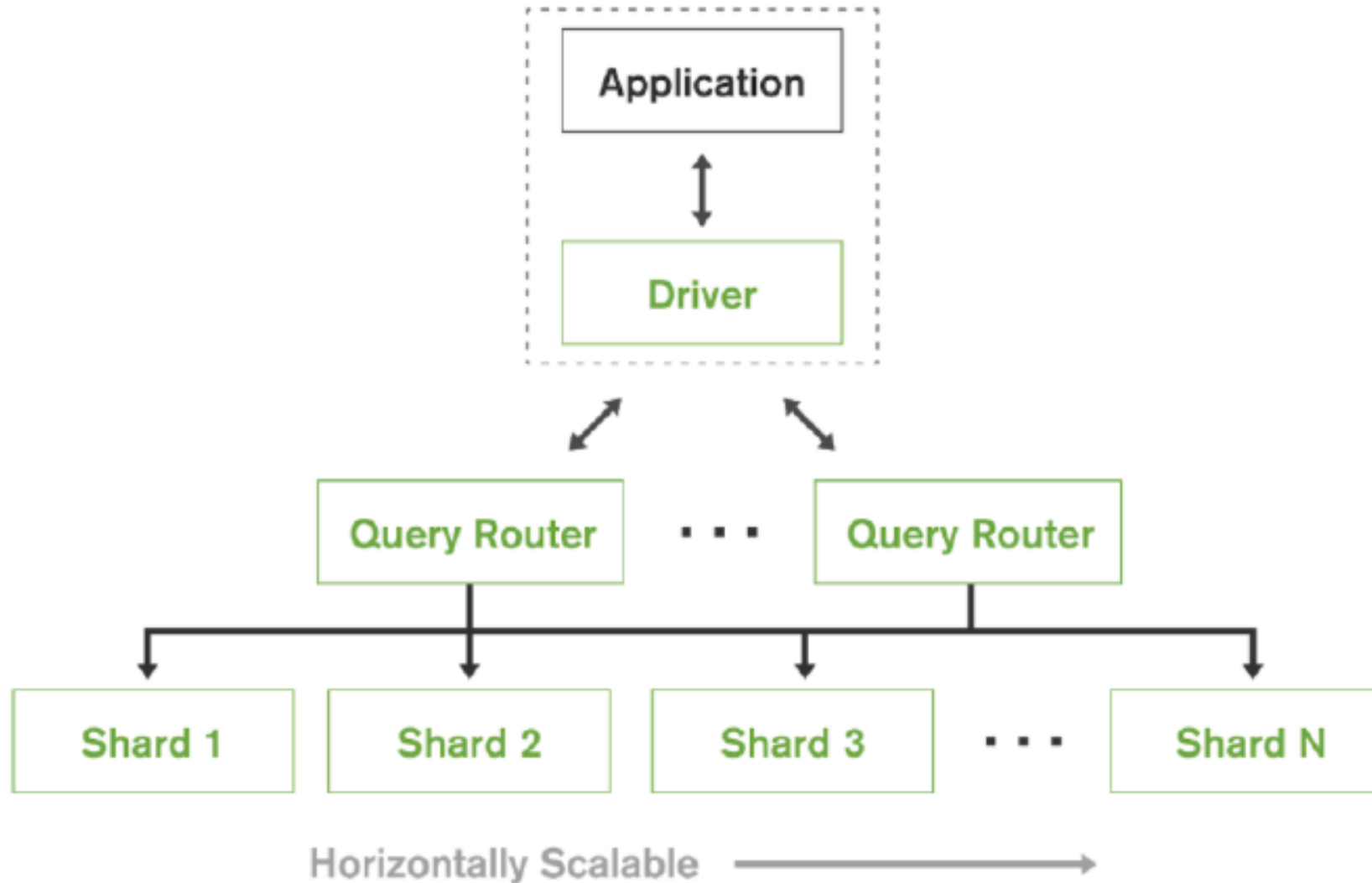


# MongoDB Architecture

# Data Structure

- Database
- Document Collections
- Documents

# Data Storage – Sharding (Partitioning)



# Sharding (Partitioning) Algorithms

- Ranged Sharding
  - Documents are partitioned across shards according to the shard key value. Documents with shard key values close to one another are likely to be co-located on the same shard.
- Hashed Sharding
  - Documents are distributed according to a hash of the shard key value. This approach guarantees a uniform distribution of writes across shards, which is often optimal for ingesting streams of time-series and event data.
- Zoned Sharding
  - Provides the ability for developers to define specific rules governing data placement in a sharded cluster.

# Data Availability and Reliability

Operational  
(interactive)



PRIMARY



Secondary



Secondary



Secondary  
{use = analytics}



Analytics



Predictive Analytics

Spark



Aggregations

# Going to Cloud

