



something about replication

About me

Tobias Holz

CS student @ TU Dortmund

Meteor & Node.js developer

certified MongoDB Devop

info@tobho.de

The Basics

The Basics - What is replication?

1. provided redundancy
2. increased availability
3. increased read capacity

by syncing data across multiple servers

Basics - What is MongoDB?

1. open source
2. NoSQL database
3. document oriented
4. stores BSON

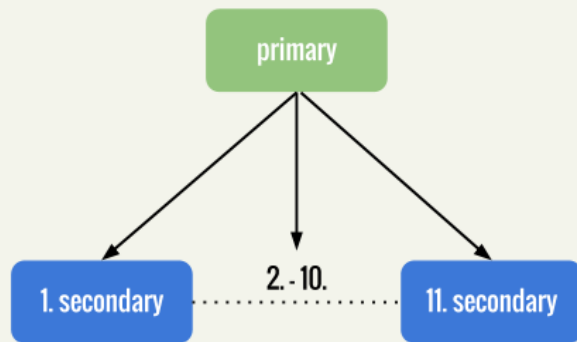
<http://www.mongodb.org>

The Basics - Vocabulary

replication set

1 primary

1-11 secondaries



The Basics - Vocabulary

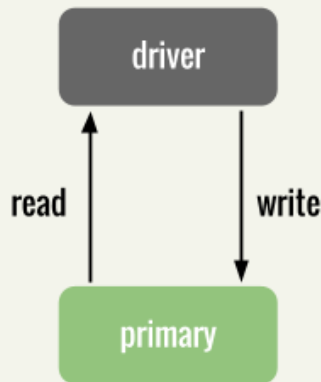
primary

mongod instance

read & write

writes oplog

majority



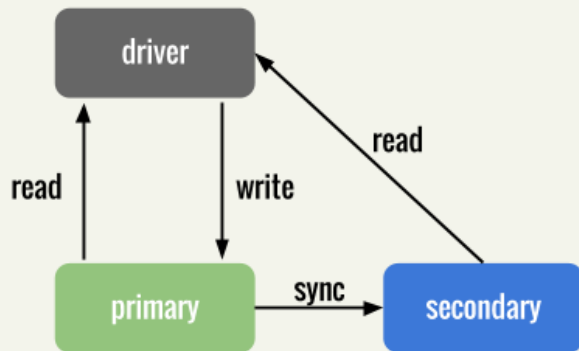
The Basics - Vocabulary

secondary

mongod instance

read only

syncs from primary



The Basics - Vocabulary

oplog

capped collection

stores insert & update queries

extremely fast

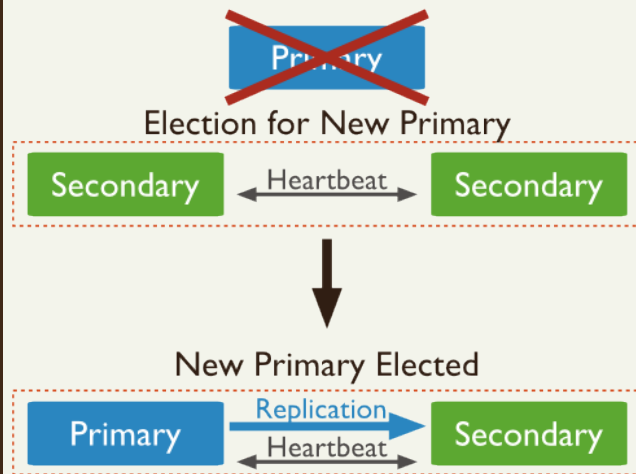
5% & 1Gb < size < 50Gb

The Basics - How does replication work?

1. driver performs write operation
2. primary writes into oplog & db
3. secondaries read oplog
4. secondaries perform oplog queries
5. secondaries write own oplog

The Basics - Automatic Failover

1. no heartbeat
2. election of new primary
3. step up/down



let's be evil

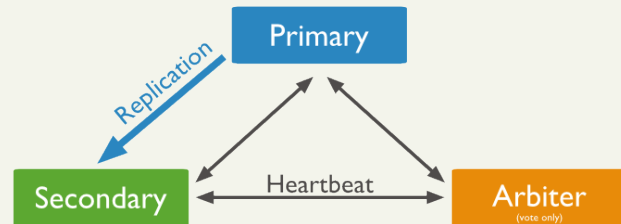
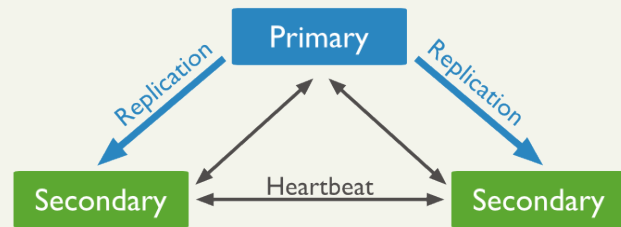
What happened?

1. secondary failed
2. election was held
3. no majority was found
4. primary stepped down

Although a primary was present everything failed!

More or less best practice

1. always odd
 - a. add another full secondary
 - b. add an arbiter
2. datacenter locations ≥ 3



So long, and thanks for the fish!