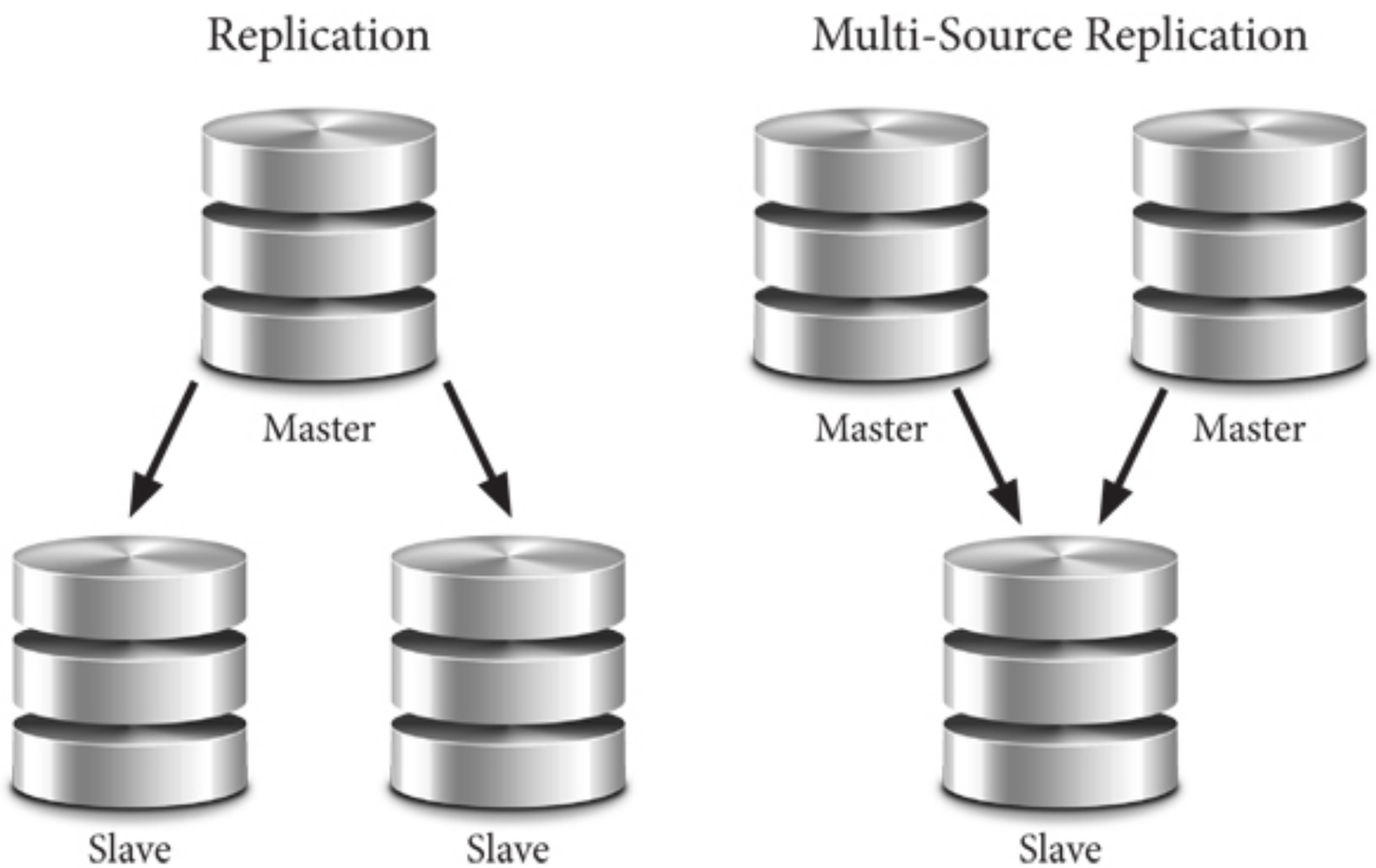
Replication

MongoDB

สถาบัน ไอเอ็มซี

Replication



Replication

Redundancy

Increase data availability

Increase read capacity

Increase data locality

Fault tolerance

Replication in MongoDB

Group of mongod instances

50 members

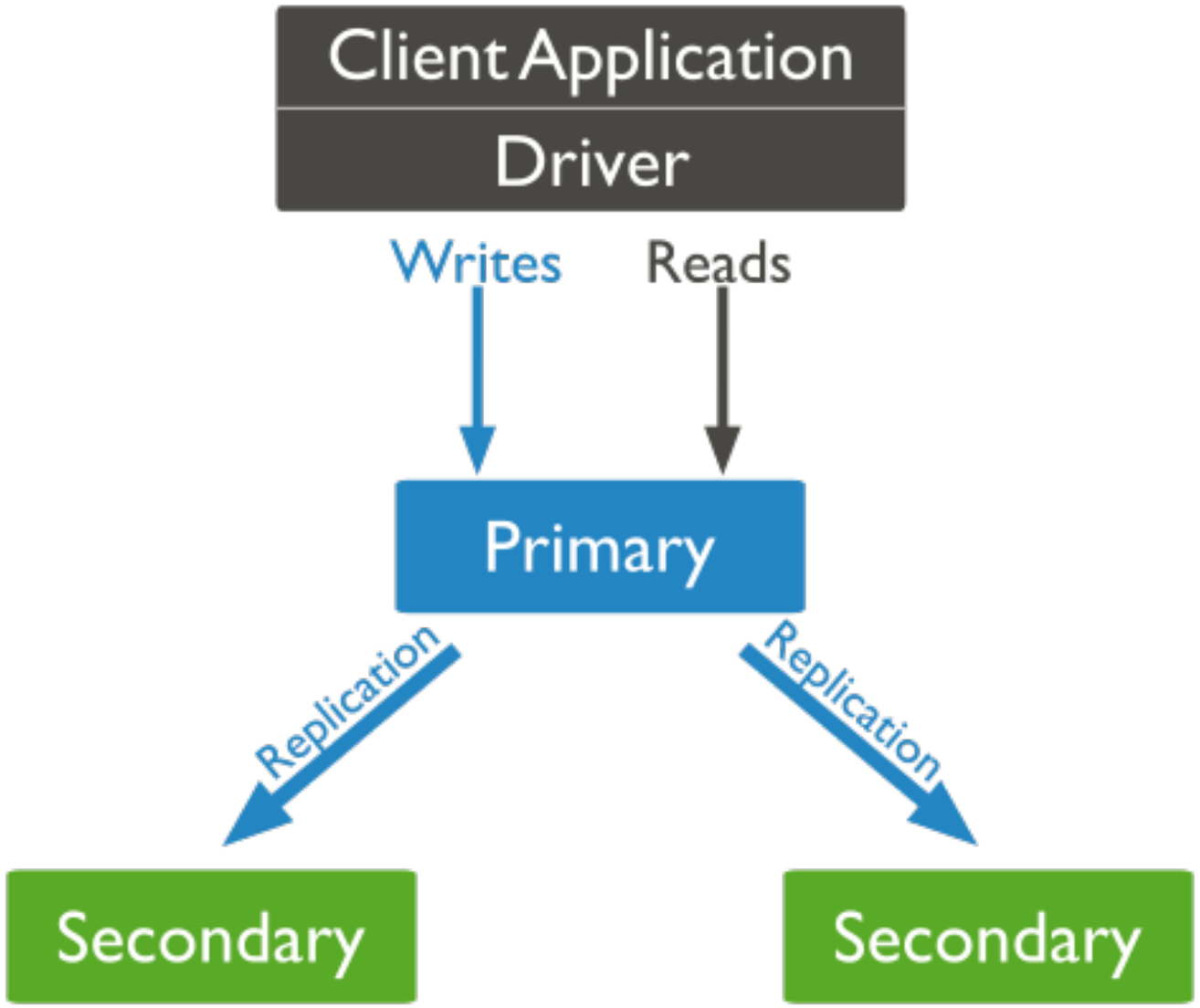
Maintain the same data set

Increase read capacity

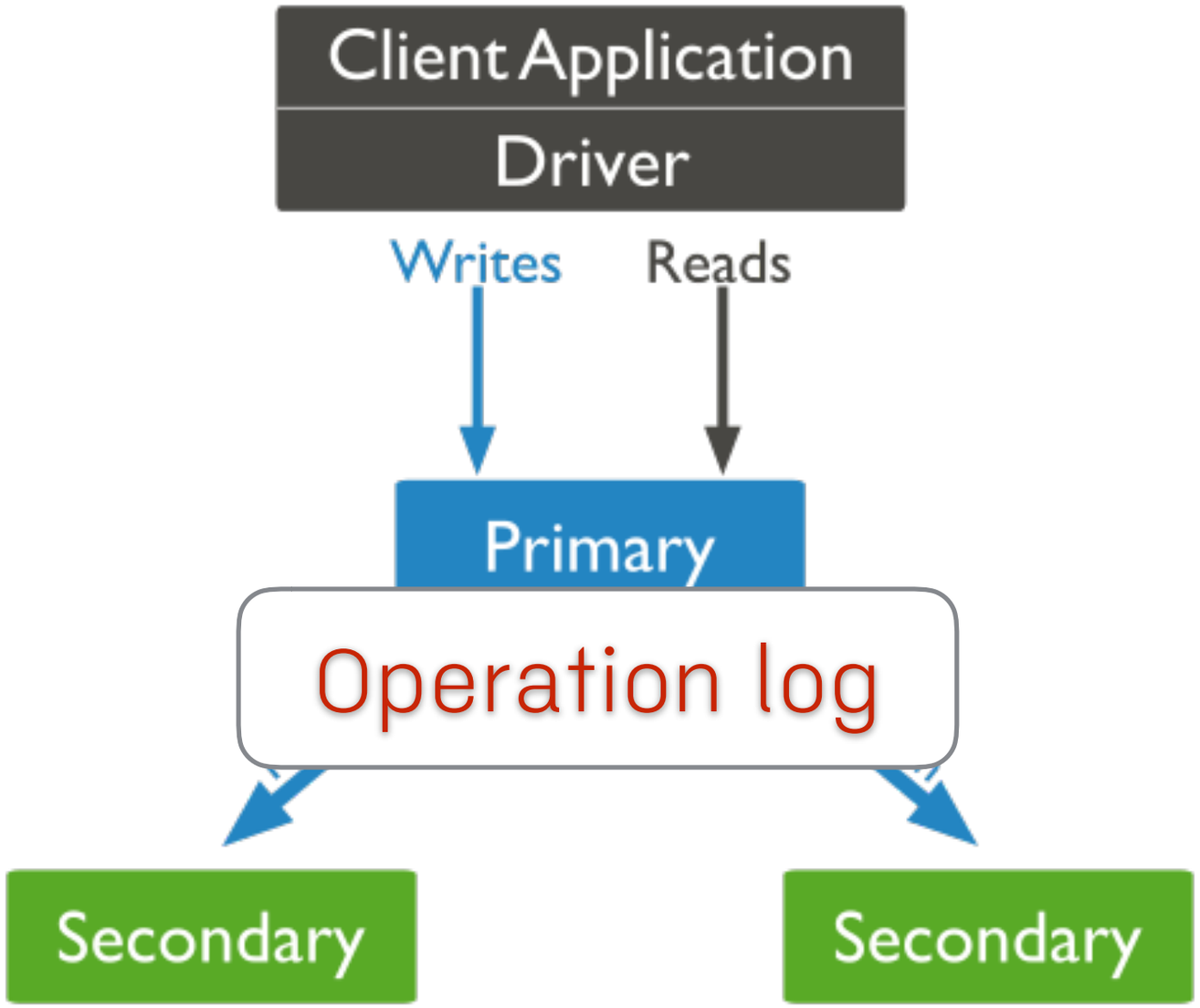
Increase data locality

Fault tolerance

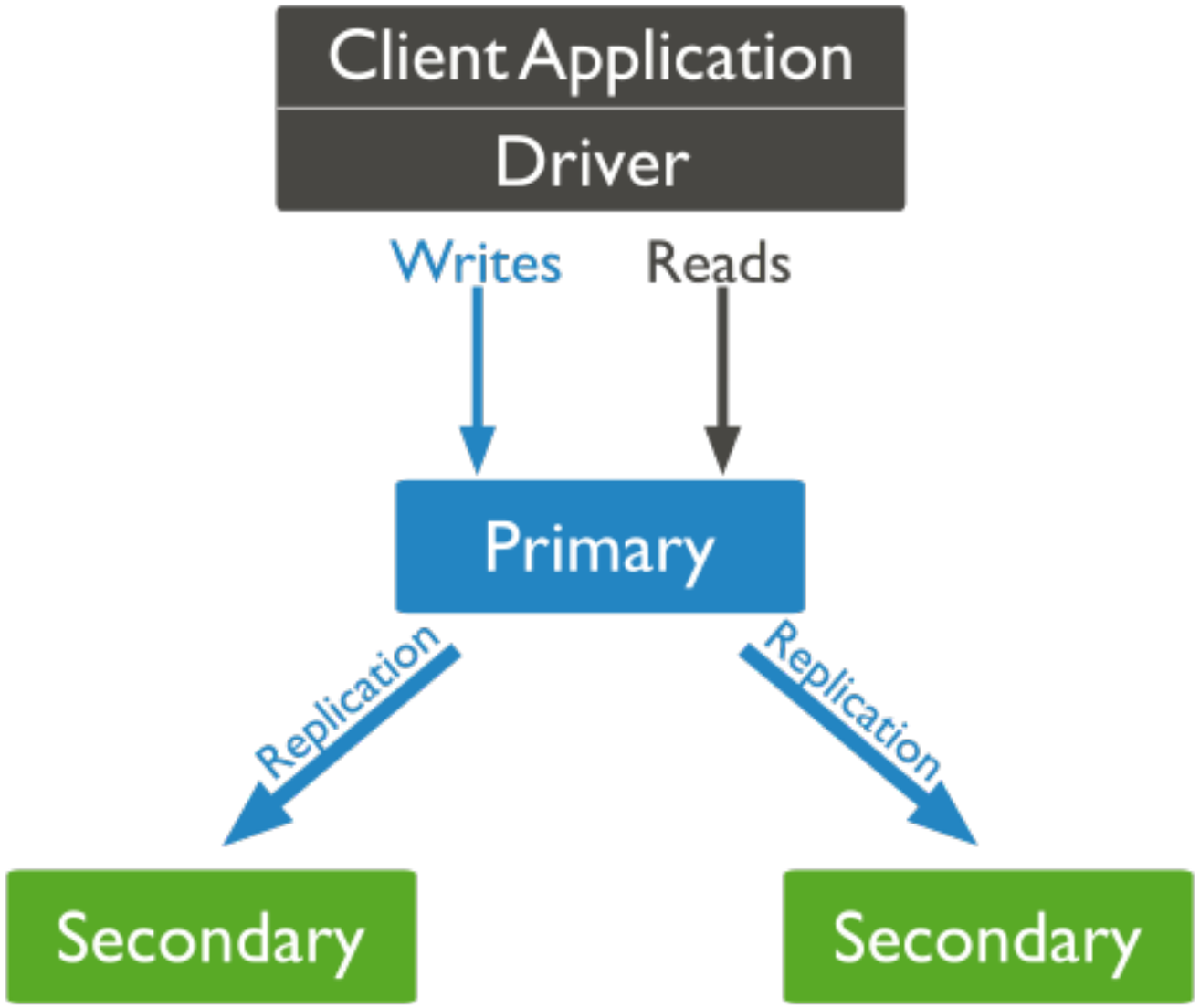
Replication in MongoDB



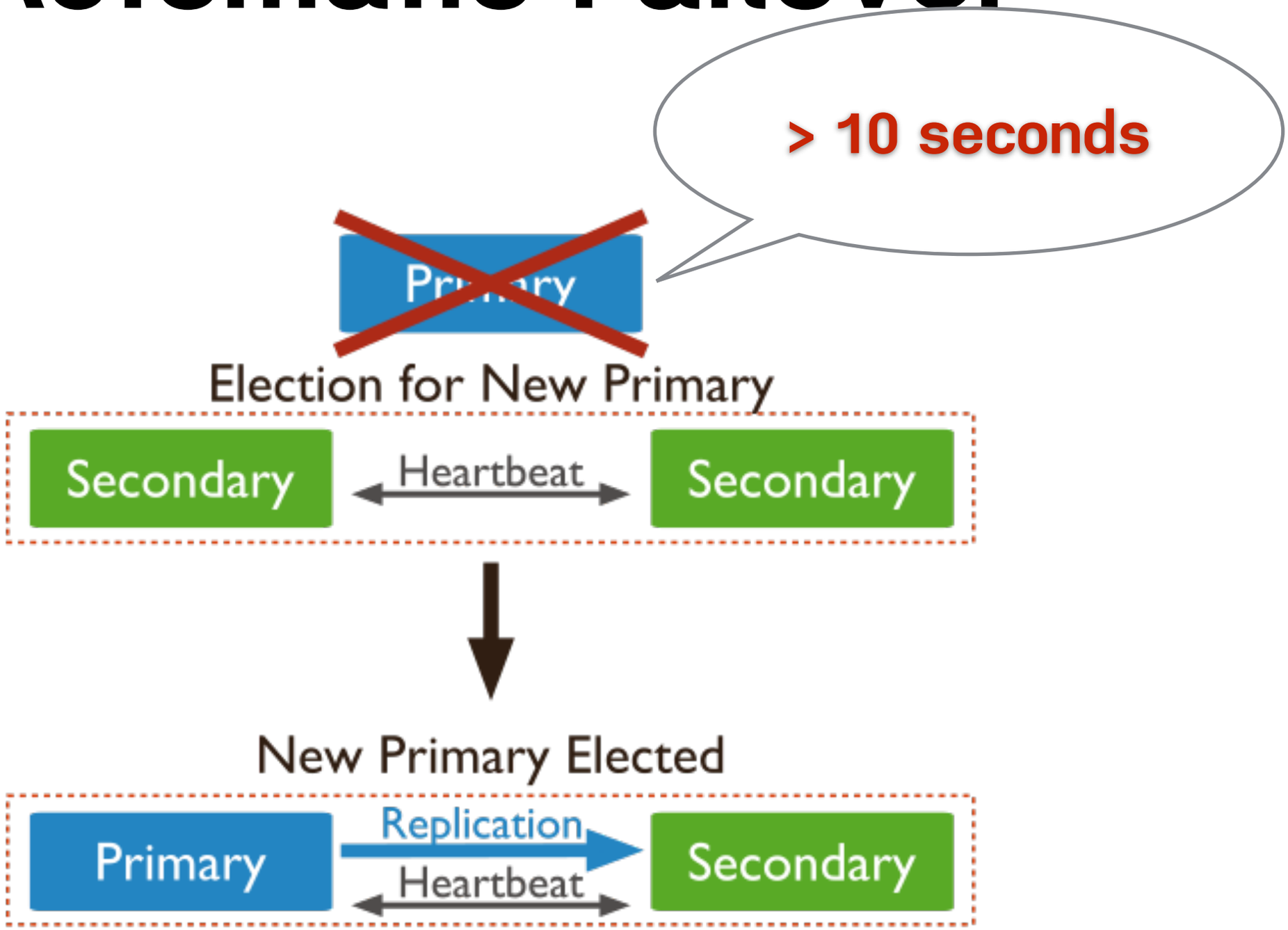
Replication in MongoDB



Secondary node



Automatic Failover



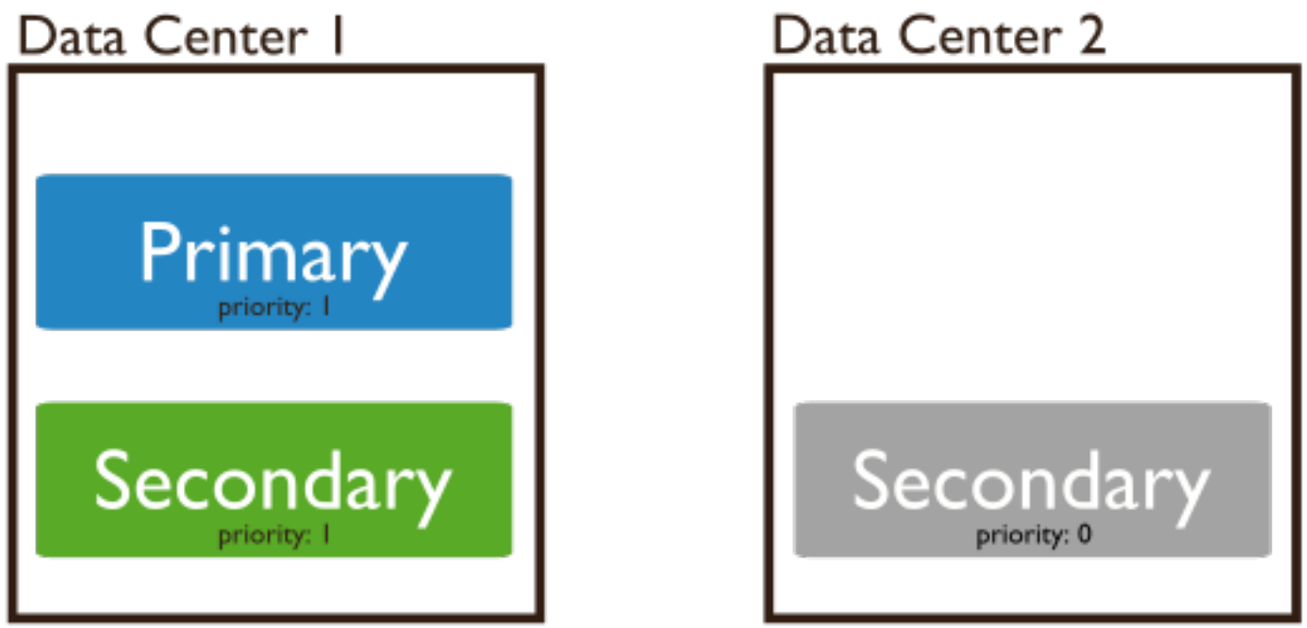
Config secondary node

Prevent from a primary in an election

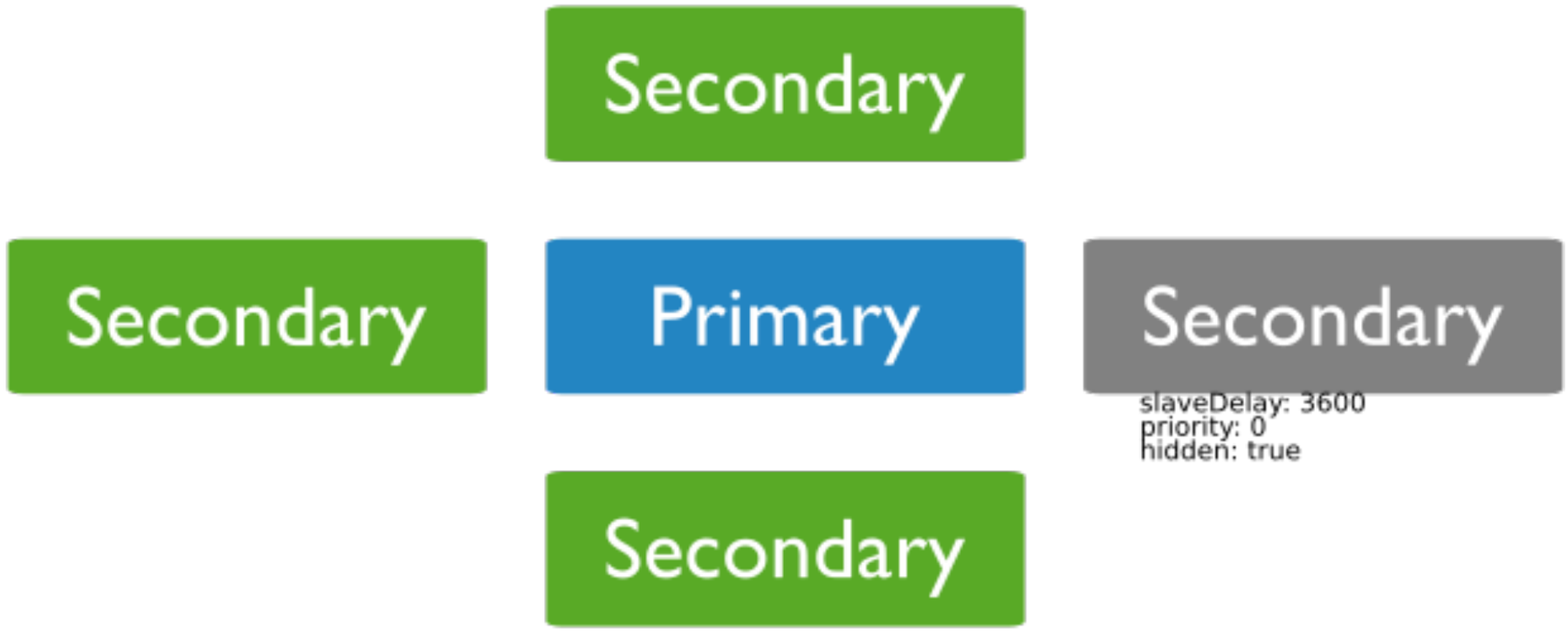
Prevent from reading

Keep a running historical snapshot

Priority 0 replica set members

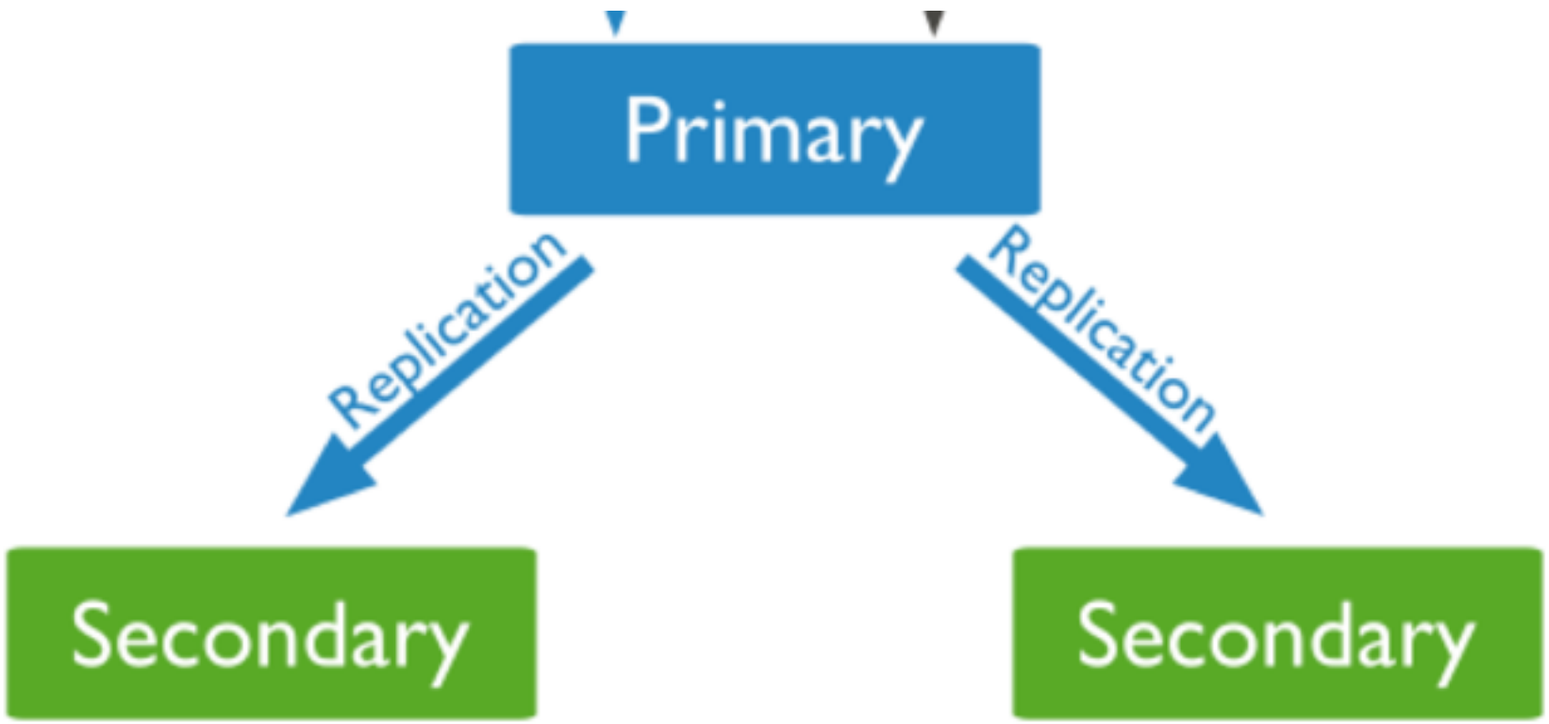


Hidden replica set members



Replica set architecture

3 members replica set



Replica strategies

Deploy an Odd number of members

Replica strategies

Number of Fault Tolerance

Number of Members	Majority Required to Elect a New Primary	Fault Tolerance
3	2	1
4	3	1
5	3	2
6	4	2

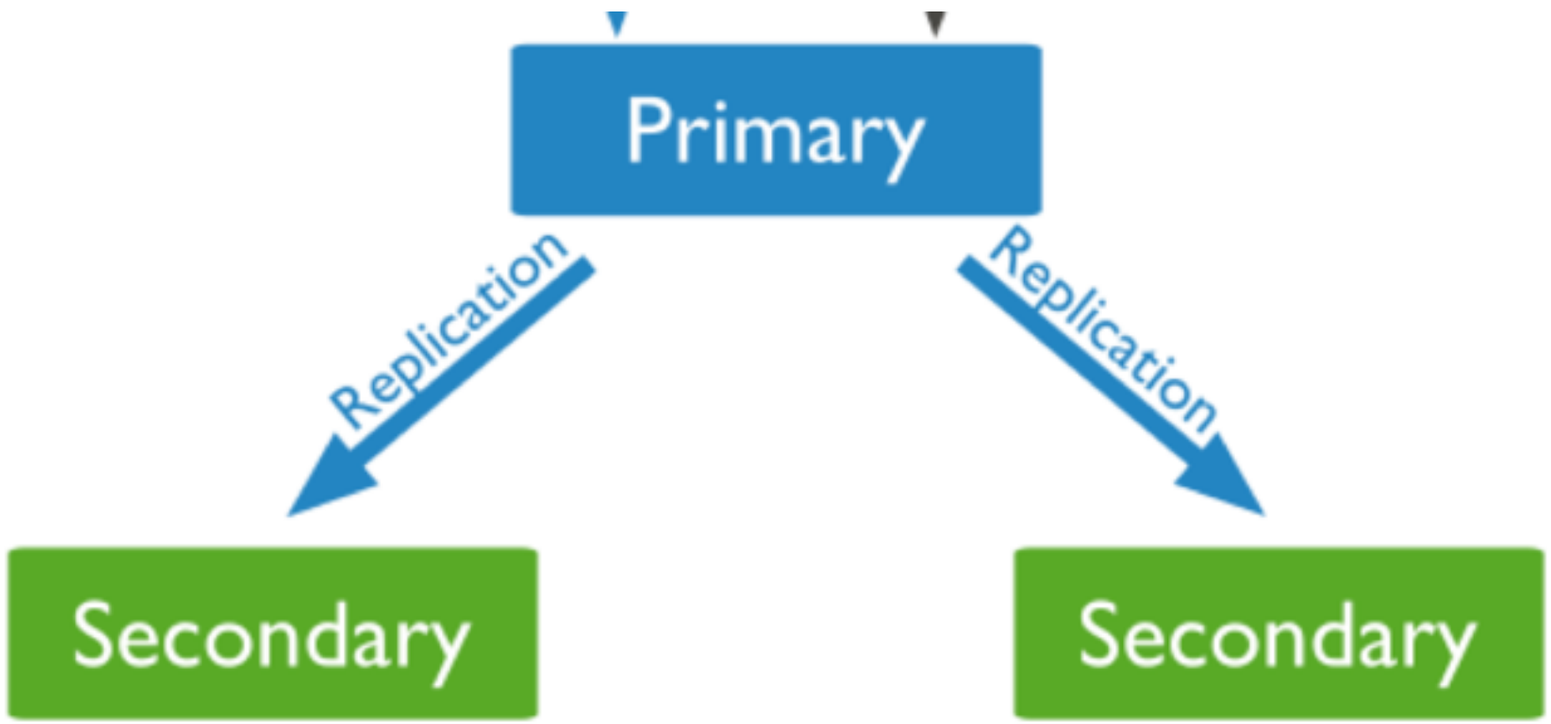
Replica strategies

Load balance with very high traffic

Create replica with MongoDB

https://github.com/up1/course-introduction-mongodb/tree/master/workshop/replicate

Setup 3 servers



Server 1

01/mongod.conf

```
replSet=example
rest=true
httpinterface=true
dbpath=data01
port=27017
```

Server 2

02/mongod.conf

```
replSet=example
rest=true
httpinterface=true
dbpath=data02
port=27016
```

Server 3

03/mongod.conf

```
replSet=example
rest=true
httpinterface=true
dbpath=data03
port=27015
```

Start server 1

```
$mongod -f 01/mongod.conf
```

Connect to mongo shell

$mongo

Initiate the replica set

```
>rs.initiate()
```

See configuration

>rs.conf()

```
"_id" : "damon",
"version" : 1,
"protocolVersion" : NumberLong(1),
"members" : [
        {
                "_id" : 0,
                "host" : "MacBook-Pro-2.local:27017",
                "arbiterOnly" : false,
                "buildIndexes" : true,
                "hidden" : false,
                "priority" : 1,
                "tags" : {

                },
                "slaveDelay" : NumberLong(0),
                "votes" : 1
        }
],
```

Start server 2, 3

```
$mongod -f 02/mongod.conf
$mongod -f 03/mongod.conf
```

Add servers to the replica set

```
>rs.add(“<your host>:27016")
>rs.add(“<your host>:27015")
```

See report

http://localhost:28017/_replSet

localhost:28017/_replSet

Home | View Replset Config | replSetGetStatus | Docs

Set name: damon
Majority up: yes

Member	id	Up	cctime	Last heartbeat	Votes	Priority	State	Messages	optime
MacBook-Pro-2.local:27017 (me)	0	1	8.6 mins		1	1.000000	PRIMARY	could not find member to sync from	(term: 1, timestamp: May 17 23:01:20:1)
MacBook-Pro-2.local:27016	1	1	85 secs	0 secs	1	1.000000	SECONDARY		(term: 1, timestamp: May 17 23:01:20:1)
MacBook-Pro-2.local:27015	2	1	3 secs	1 sec	1	1.000000	STARTUP2		(term: -1, timestamp: Jan 1 07:00:00:0)

Recent replset log activity:

```
2016-05-17T22:54:37.502+0700 I REPL     [ReplicationExecutor] New replica set config in use: { _id: "damon", version: 1, protocolVersion: 1, members: [ {
            22:54:37.502+0700 I REPL     [ReplicationExecutor] transition to STARTUP2
            22:54:37.503+0700 I REPL     [ReplicationExecutor] transition to RECOVERING
            22:54:37.504+0700 I REPL     [ReplicationExecutor] transition to SECONDARY
            22:54:37.527+0700 I REPL     [ReplicationExecutor] transition to PRIMARY
            22:54:38.510+0700 I REPL     [rsSync] transition to primary complete; database writes are now permitted
```

Remove server

```
>rs.remove(“<your host>:<port>")
```

Resources

https://github.com/up1/course-introduction-mongodb