



MongoDB Enterprise 4.0.10

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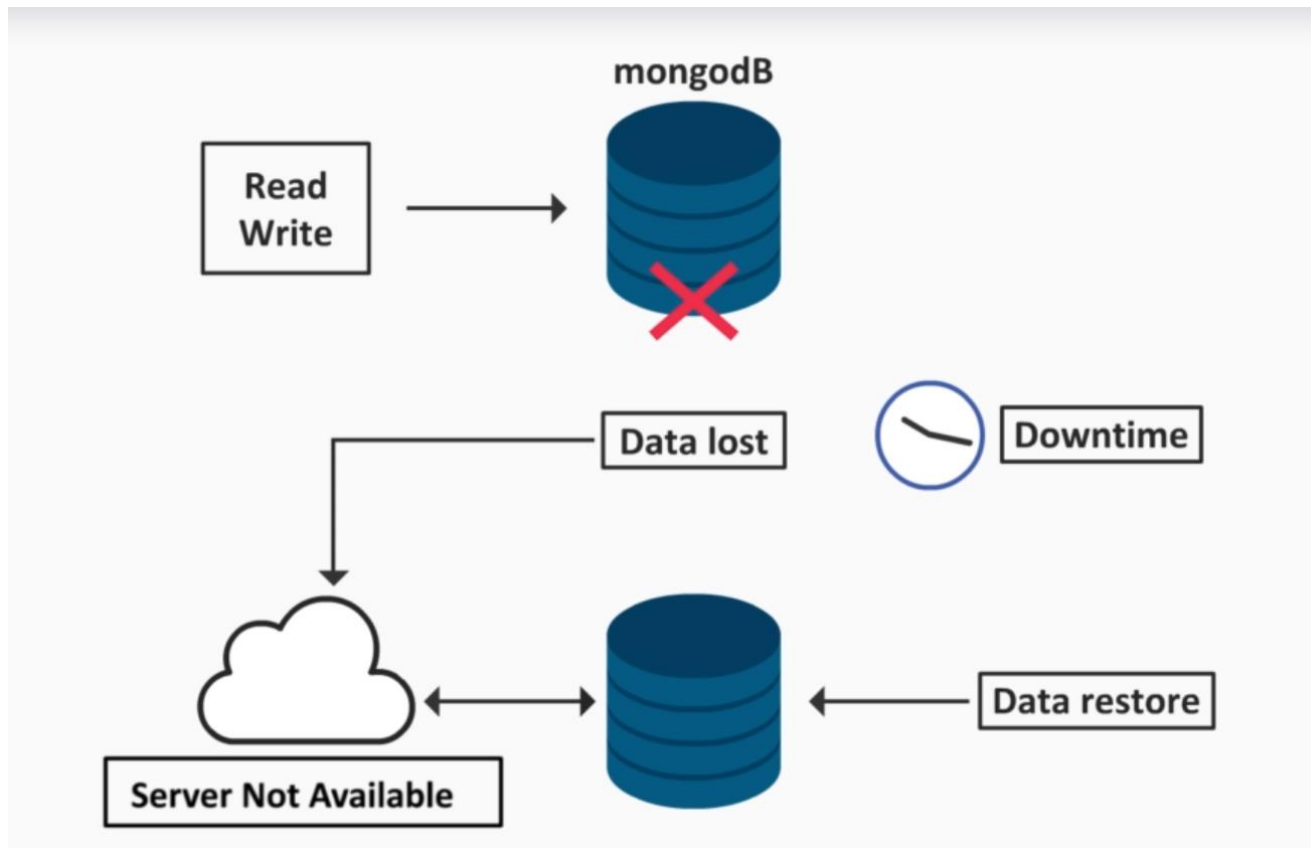
mongoDB

MongoDB Replication

MongoDB Enterprise 4

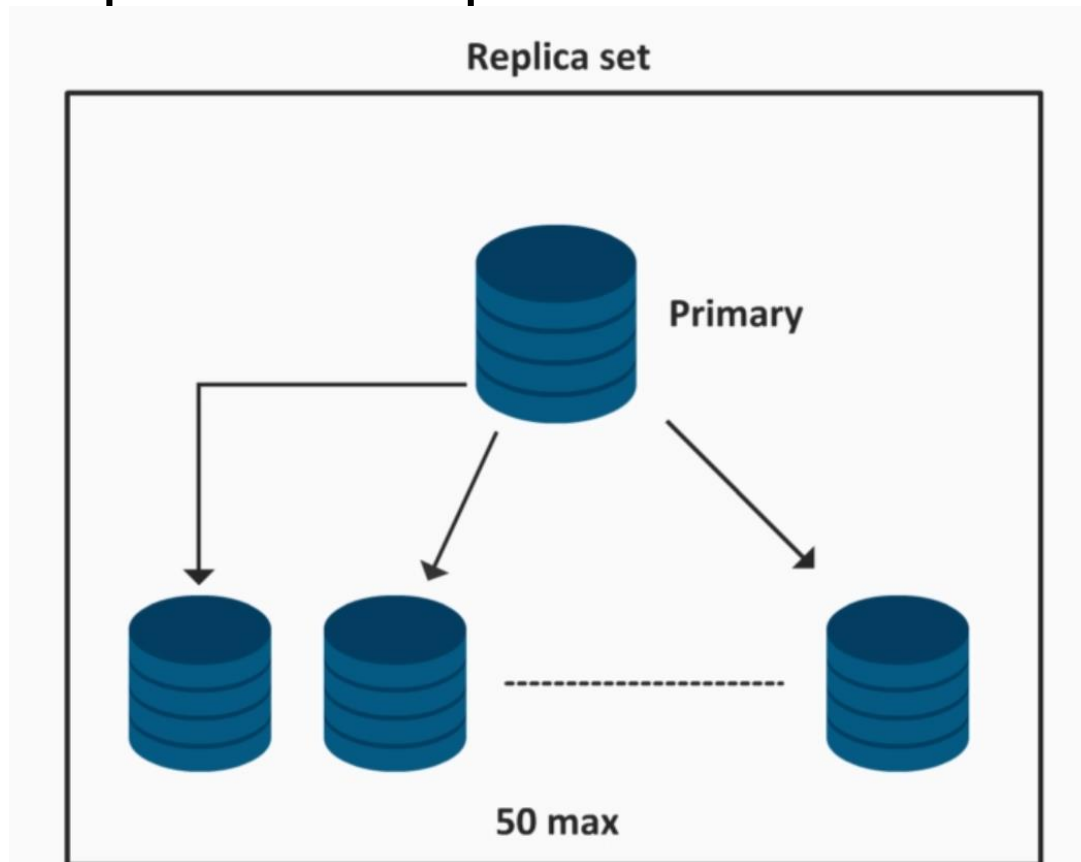
Introduction to MongoDB Replication

- Restore sin replicación



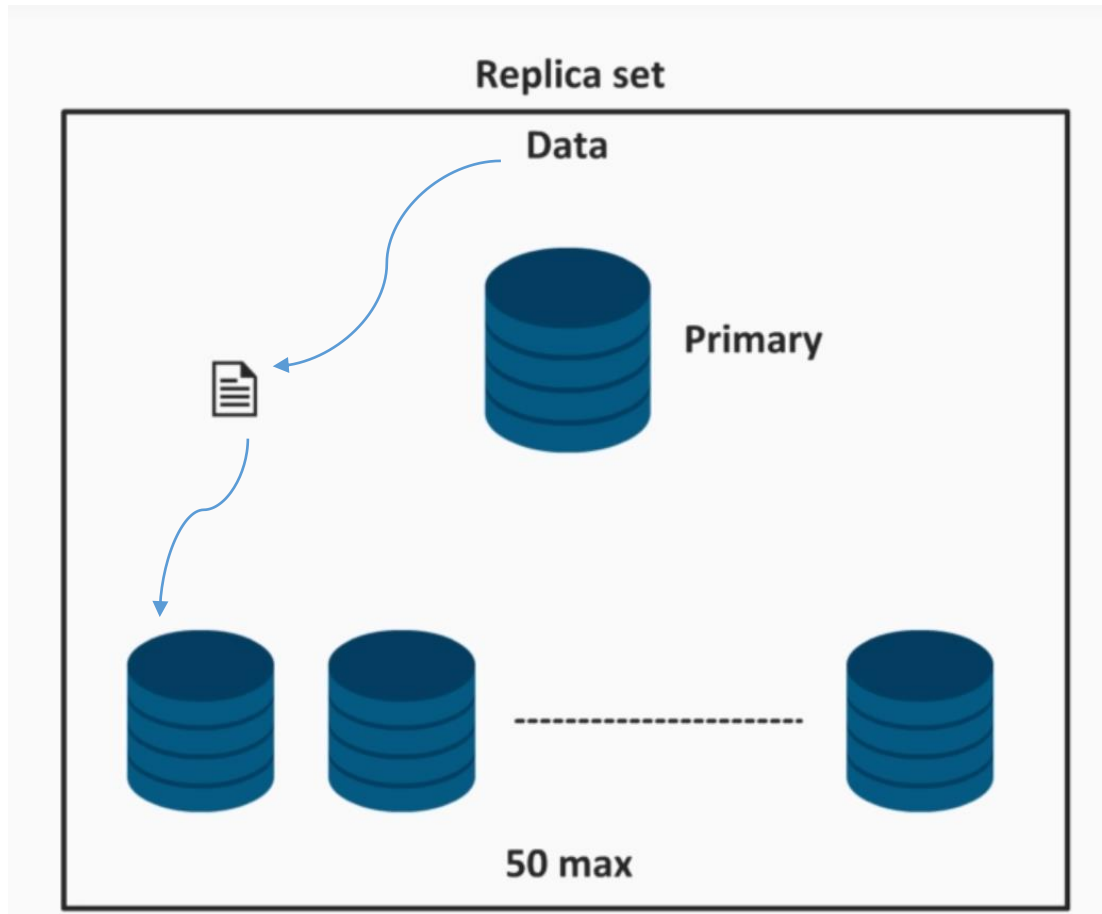
Replica Set

- Esquema de replica set



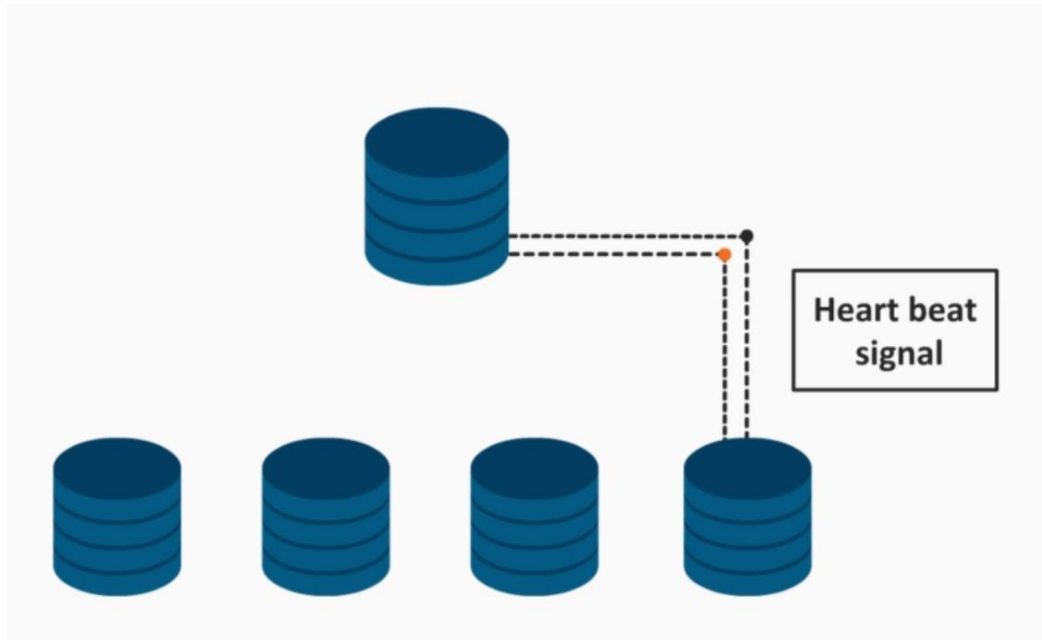
Data replication

- Data Replication from primary instance



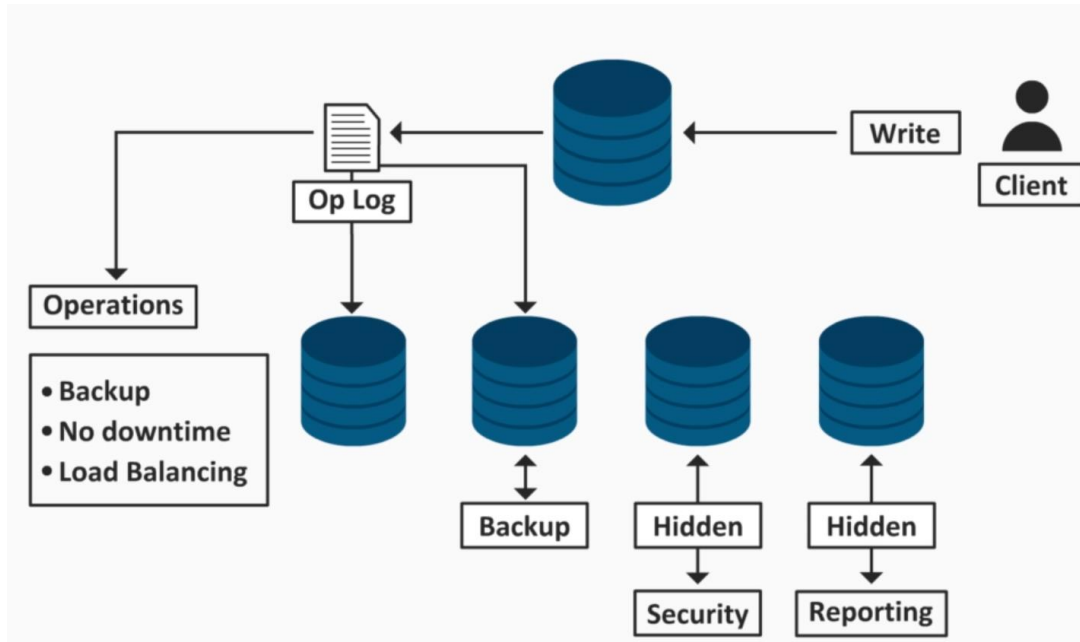
Continuous replication

- Heart beat signal : Si el servidor no responde por un largo tiempo se considera que está caído (downtime)
- Si un **primary** no está disponible (10 segundos), un **secondary** elegible realizará una elección para elegir la nueva primaria.



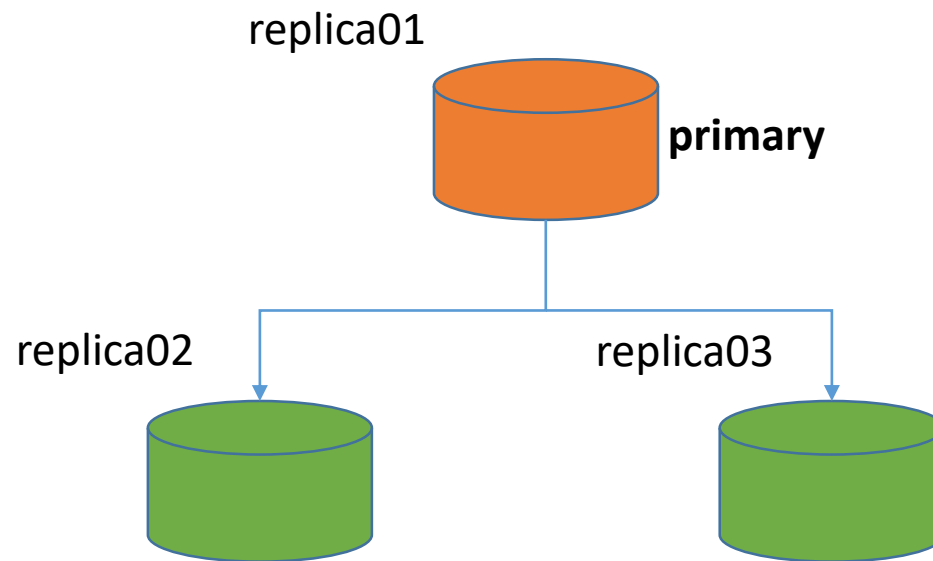
Operations in replica set

- Los servidores secundarios pueden estar especializados, si se cae el primary uno de ellos tomara el rol.
- El primario registra todos los cambios en sus conjuntos de datos en su registro de operaciones llamado **oplog**.



Setting Up Replica Set Servers

- Planificar el conjunto de instancias de mongoddb que formaran parte del Replica Set



Replica Set Server

- Crea un directorio por cada servidor y ejecutar el comando mongod con las parámetros adecuados

```
$mkdir replica01
```

```
$chmod -R 777 replica01
```

```
$mongod -dbpath replica01 -port 27020 -logpath replica01/log -logappend  
-fork -bind_ip_all -replSet myreplicaset01
```

```
$ps ef | grep mongo
```

Configure Replica Set

- [admin@odiseo ~]\$ **mongo** --**port** 27020
- MongoDB Enterprise > **rs.initiate();**

```
MongoDB Enterprise > rs.initiate();
{
  "info2" : "no configuration specified. Using a default configuration for the set",
  "me" : "odiseo.example.com:27020",
  "ok" : 1,
  "$clusterTime" : {
    "clusterTime" : Timestamp(1572210317, 1),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  },
  "operationTime" : Timestamp(1572210317, 1)
}
MongoDB Enterprise myreplicaset01:OTHER>
MongoDB Enterprise myreplicaset01:PRIMARY> █
```

Nota: Presiona Enter después de ejecutar el comando en la consola CLI, deberás ver el cambio a **PRIMARY**

Check Configuration and status

- Chequeando la configuración

MongoDB Enterprise myreplicaset01:PRIMARY> **rs.conf()**;

MongoDB Enterprise myreplicaset01:PRIMARY> **rs.status()**;

- Agregando servidores secundarios al set

MongoDB Enterprise myreplicaset01:PRIMARY> **rs.add("odiseo.example.com:27021")**

```
MongoDB Enterprise myreplicaset01:PRIMARY> rs.add("odiseo.example.com:27021")
{
  "ok" : 1,
  "$clusterTime" : {
    "clusterTime" : Timestamp(1572210913, 1),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  },
  "operationTime" : Timestamp(1572210913, 1)
}
MongoDB Enterprise myreplicaset01:PRIMARY> rs.add("odiseo.example.com:27022")
{
  "ok" : 1,
  "$clusterTime" : {
    "clusterTime" : Timestamp(1572210921, 1),
    "signature" : {
      "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAA="),
      "keyId" : NumberLong(0)
    }
  },
  "operationTime" : Timestamp(1572210921, 1)
}
MongoDB Enterprise myreplicaset01:PRIMARY> █
```

Setting Secondary Server

- [admin@odiseo ~]\$ **mongo** --port 27022
- MongoDB Enterprise myreplicaset01:SECONDARY> **rs.slaveOk(true);**

```
MongoDB Enterprise myreplicaset01:SECONDARY> show dbs
2019-10-28T00:02:44.675-0400 E QUERY [js] uncaught exception: Error: listDatabases failed:{"operationTime" : Timestamp(1572235164, 1),
"ok" : 0,
"errmsg" : "not master and slaveOk=false",
"code" : 13435,
"codeName" : "NotMasterNoSlaveOk",
"$clusterTime" : {
  "clusterTime" : Timestamp(1572235164, 1),
  "signature" : {
    "hash" : BinData(0,"AAAAAAAAAAAAAAAAAAAAAAAAAAAA="),
    "keyId" : NumberLong(0)
  }
}
} :
_getErrorWithCode@src/mongo/shell/utils.js:25:13
Mongo.prototype.getDBs/<@src/mongo/shell/mongo.js:135:19
Mongo.prototype.getDBs@src/mongo/shell/mongo.js:87:12
shellHelper.show@src/mongo/shell/utils.js:906:13
shellHelper@src/mongo/shell/utils.js:790:15
@(shellhelp2):1:1
MongoDB Enterprise myreplicaset01:SECONDARY> rs.slaveOk(true);
MongoDB Enterprise myreplicaset01:SECONDARY> show dbs
admin      0.000GB
config     0.000GB
local      0.000GB
prodmongodb 0.000GB
```

Connection using Mongo to secondary server

- [admin@odiseo ~]\$ **mongo** --port 27022

```
MongoDB Enterprise myreplicaset01:SECONDARY> use prodmongodb
switched to db prodmongodb
MongoDB Enterprise myreplicaset01:SECONDARY> db.employees.find();
{ "_id" : ObjectId("5db664ef3c49e8e78b25e093"), "name" : "Charles", "age" : 20, "salary" : 1000 }
MongoDB Enterprise myreplicaset01:SECONDARY> db.employees.insert({name:"Yenny",salary:1500});
WriteResult({
  "nInserted" : 0,
  "writeError" : {
    "code" : 189,
    "errmsg" : "Not primary while writing to prodmongodb.employees"
  }
})
MongoDB Enterprise myreplicaset01:SECONDARY> █
```

Referencias

- <https://devops.ionos.com/tutorials/configure-mongodb-replica-set/>
- <https://medium.com/codeops/how-to-setup-a-mongodb-replica-set-918f21da50ed>