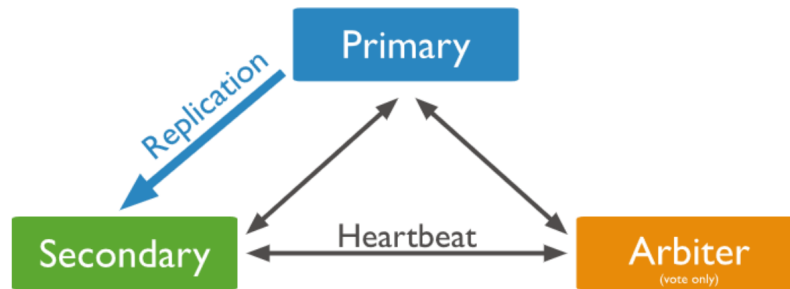


Windows MongoDB Arbiter

Jan 2020

Introduction

MongoDB is a software component of the MediaKind Controller. It is the database that is used to store configurations etc. Controller is normally deployed on multiple nodes to provide High Availability and Redundancy. In this case, MongoDB uses a replica set.



A replica set is a group of mongod instances that maintain the same data set. A replica set contains several data bearing nodes and optionally one arbiter node. Of the data bearing nodes, one and only one member is deemed the primary node, while the other nodes are deemed secondary nodes. An extra mongod instance may be added to a replica set as an arbiter. The purpose of an arbiter is to maintain a quorum in a replica set by responding to heartbeat and election requests by other replica set members.

Download MongoDB

Firstly we need to download MongoDB, this can be downloaded from <https://www.mongodb.com/download-center/community?jmp=docs>

At the time of writing, we are using v3.6 which you can also get

here

Install MongoDB

- Double-click the .MSI file and click Next
- Accept the terms of the license agreement and click Next
- Choose Complete Installation
- Uncheck "Install MongoDB Compass" and click Next
- Click Install
- Click Finish to exit the Setup Wizard

MongoDB will be installed in C:\Program Files\MongoDB\Server\3.6

Configure MongoDB

Create a folder structure to contain the database files and logs. The MongoDB documentation uses C:\data but a more obvious name is C:\mongo

```
cd C:\
mkdir "\\mongo\db" "\\mongo\log"
```

Create a MongoDB configuration file "[C:\Program Files\MongoDB\Server\3.6\mongod.cfg](#)"

```
systemLog:
  destination: "file"
  path: "c:\\mongo\\log\\mongod.log"
storage:
  dbPath: "c:\\mongo\\db"
replication:
  replSetName: repldb
security:
  authorization: enabled
  keyFile: "c:\\Program Files\\MongoDB\\Server\\3.6\\mongodb.key"
  transitionToAuth: false
net:
  port: 27018
  bindIp: 0.0.0.0
```

[You can download the mongod.cfg file](#)

here

:

Create a MongoDB key file:

Create the file "[C:\Program Files\MongoDB\Server\3.6\mongodb.key](#)"

The contents of the key file should be the same as the corresponding file on the Controller instances. This can be found using the following CentOS command:

```
cat /etc/ericsson/secrets/mongo/mongodb.key
```

Just copy the mongodb.key file from your Controller to your Windows MongoDB folder (C:\Program Files\MongoDB\Server\3.6)

Create a MongoDB Service

From a Windows Command Line, type the following in Cmd.exe to create a MongoDB Service.

```
sc.exe create MongoDB binPath="\"C:\Program Files\MongoDB\Server\3.6\bin\mongod.exe\" --service --
config="\"C:\Program Files\MongoDB\Server\3.6\mongod.cfg\" DisplayName="MongoDB" start=auto
```

Start the service with the following command:

```
net start MongoDB
```

Add Arbiter to Replicaset

SSH (or console) to your 'PRIMARY' Controller (this will be the one that has the VIP IP).

From the command line type `ip a`

```
eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether 74:fe:48:45:5a:52 brd ff:ff:ff:ff:ff:ff
inet 10.43.30.17/24 brd 10.43.30.255 scope global noprefixroute eth0
valid_lft forever preferred_lft forever
inet 10.43.30.19/32 scope global eth0
valid_lft forever preferred_lft forever
inet 10.43.30.20/32 scope global eth0
valid_lft forever preferred_lft forever
inet6 fe80::76fe:48ff:fe45:5a52/64 scope link
valid_lft forever preferred_lft forever
```

If you see the three IP Addresses (Controller IP1, VIP, LicensingVIP) then you are on the PRIMARY controller.

Check the password in the secrets.ini

```
cat /etc/ericsson/secrets/mongo/secrets.ini
```

Now add the Arbiter details by using the following:

```
mongo admin -u MediaKind -p *****
```

Add the Arbiter using the `rs.addArb` method with the IP address of the Windows server that is used for the management network of the MediaKind appliances e.g.

```
repldb:PRIMARY> rs.addArb("x.x.x.x:27018")
(where x.x.x.x is the Management IP Address of your nCompass Server)
```

Verify Replicaset Members

Whilst in the mongo client, use the `rs.status` method to list the members of the Replicaset:

```
repldb:PRIMARY> rs.status()
```

This should return information including details of the PRIMARY, SECONDARY and ARBITER nodes:

```
{
  "set" : "repldb",
  "date" : ISODate("2020-01-23T08:30:18.165Z"),
  "myState" : 1,
  "term" : NumberLong(1),
  "syncingTo" : "",
  "syncSourceHost" : "",
  "syncSourceId" : -1,
  "heartbeatIntervalMillis" : NumberLong(2000),
  "optimes" : {
    "lastCommittedOpTime" : {
      "ts" : Timestamp(1579768211, 2),
      "t" : NumberLong(1)
    },
    "readConcernMajorityOpTime" : {
      "ts" : Timestamp(1579768211, 2),
      "t" : NumberLong(1)
    },
    "appliedOpTime" : {
      "ts" : Timestamp(1579768211, 2),
      "t" : NumberLong(1)
    },
    "durableOpTime" : {
      "ts" : Timestamp(1579768211, 2),
      "t" : NumberLong(1)
    }
  }
}
```

```
  },
  "members" : [
    {
      "_id" : 0,
      "name" : "10.43.30.17:27017",
      "health" : 1,
      "state" : 1,
      "stateStr" : "PRIMARY",
      "uptime" : 64477,
      "optime" : {
        "ts" : Timestamp(1579768211, 2),
        "t" : NumberLong(1)
      },
      "optimeDate" : ISODate("2020-01-23T08:30:11Z"),
      "syncingTo" : "",
      "syncSourceHost" : "",
      "syncSourceId" : -1,
      "infoMessage" : "",
      "electionTime" : Timestamp(1579703742, 2),
      "electionDate" : ISODate("2020-01-22T14:35:42Z"),
      "configVersion" : 3,
      "self" : true,
      "lastHeartbeatMessage" : ""
    },
    {
      "_id" : 1,
      "name" : "10.43.30.18:27017",
      "health" : 1,
      "state" : 2,
      "stateStr" : "SECONDARY",
      "uptime" : 64308,
      "optime" : {
        "ts" : Timestamp(1579768211, 2),
        "t" : NumberLong(1)
      },
      "optimeDurable" : {
        "ts" : Timestamp(1579768211, 2),
        "t" : NumberLong(1)
      },
      "optimeDate" : ISODate("2020-01-23T08:30:11Z"),
      "optimeDurableDate" : ISODate("2020-01-23T08:30:11Z"),
      "lastHeartbeat" : ISODate("2020-01-23T08:30:17.980Z"),
      "lastHeartbeatRecv" : ISODate("2020-01-23T08:30:17.039Z"),
      "pingMs" : NumberLong(0),
      "lastHeartbeatMessage" : "",
      "syncingTo" : "10.43.30.17:27017",
      "syncSourceHost" : "10.43.30.17:27017",
      "syncSourceId" : 0,
      "infoMessage" : "",
      "configVersion" : 3
    },
    {
      "_id" : 2,
      "name" : "10.43.30.21:27018",
      "health" : 1,
      "state" : 7,
      "stateStr" : "ARBITER",
      "uptime" : 22,
      "lastHeartbeat" : ISODate("2020-01-23T08:30:17.981Z"),
      "lastHeartbeatRecv" : ISODate("2020-01-23T08:30:18.084Z"),
      "pingMs" : NumberLong(1),
      "lastHeartbeatMessage" : "",
      "syncingTo" : "",
      "syncSourceHost" : "",
      "syncSourceId" : -1,
      "infoMessage" : "",
      "configVersion" : 3
    }
  ],
  "ok" : 1,
```

```
"operationTime" : Timestamp(1579768211, 2),
"$clusterTime" : {
  "clusterTime" : Timestamp(1579768215, 1),
  "signature" : {
    "hash" : BinData(0,"TvImZ5m+/dag28UkRYCDcqrXlvk="),
    "keyId" : NumberLong("6784775917848756225")
  }
}
}
repldb:PRIMARY> exit
```

From:

<http://cameraangle.co.uk/> - WalkerWiki - wiki.alanwalker.uk

Permanent link:

http://cameraangle.co.uk/doku.php?id=windows_mongodb_arbiter

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