becomes inaccessible. See the MongoDB Cloud Manager documentation[43] and Ops Manager documentation[44] for more information.

Balancing and Chunk Distribution The most effective *sharded cluster* deployments evenly balance *chunks* among the shards. To facilitate this, MongoDB has a background *balancer* process that distributes data to ensure that chunks are always optimally distributed among the *shards*.

Issue the `db.printShardingStatus()` or `sh.status()` command to the `mongos` by way of the `mongo` shell. This returns an overview of the entire cluster including the database name, and a list of the chunks.

Stale Locks In nearly every case, all locks used by the balancer are automatically released when they become stale. However, because any long lasting lock can block future balancing, it's important to ensure that all locks are legitimate. To check the lock status of the database, connect to a `mongos` instance using the `mongo` shell. Issue the following command sequence to switch to the `config` database and display all outstanding locks on the shard database:

```
use config
db.locks.find()
```

For active deployments, the above query can provide insights. The balancing process, which originates on a randomly selected `mongos`, takes a special "balancer" lock that prevents other balancing activity from transpiring. Use the following command, also to the `config` database, to check the status of the "balancer" lock.

```
db.locks.find( { _id : "balancer" } )
```

If this lock exists, make sure that the balancer process is actively using this lock.

Additional Resources

- MongoDB Production Readiness Consulting Package[45]

Run-time Database Configuration

The `command line` and `configuration file` interfaces provide MongoDB administrators with a large number of options and settings for controlling the operation of the database system. This document provides an overview of common configurations and examples of best-practice configurations for common use cases.

While both interfaces provide access to the same collection of options and settings, this document primarily uses the configuration file interface. If you run MongoDB using a control script or installed from a package for your operating system, you likely already have a configuration file located at `/etc/mongod.conf`. Confirm this by checking the contents of the `/etc/init.d/mongod` or `/etc/rc.d/mongod` script to ensure that the *control scripts* start the `mongod` with the appropriate configuration file (see below.)

To start a MongoDB instance using this configuration file, issue a command in the following form:

```
mongod --config /etc/mongod.conf
mongod -f /etc/mongod.conf
```

Modify the values in the `/etc/mongod.conf` file on your system to control the configuration of your database instance.

[43] https://docs.cloud.mongodb.com/
[44] https://docs.opsmanager.mongodb.com/current/application
[45] https://www.mongodb.com/products/consulting?jmp=docs#s_production_readiness