Sharding Notes

Setting up a sharded cluster

Create directories for mongod instances:

```
mkdir /data/shard1 /data/shard2 /data/config
```

Start up 3 mongod instances:

```
mongod --dbpath /data/shard1 --port 10000 --shardsvr
mongod --dbpath /data/shard2 --port 10001 --shardsvr
mongod --dbpath /data/config --port 20000 --configsvr
```

Start an instance of mongos:

```
# --chunkSize 1 means use a 1MB chunk size. This is for
# demonstration purposes.
mongos --configdb localhost:20000 --chunkSize 1
```

Add shards to the cluster:

```
mongo
mongos> use admin

# Pre MongoDB 2.0
mongos> db.runCommand({'addshard': 'localhost:10000'})
mongos> db.runCommand({'addshard': 'localhost:10001'})

# Post MongoDB 2.0
mongos> sh.addShard('localhost:10000')
mongos> sh.addShard('localhost:10001')
```

Enable sharding on a database:

```
# Pre MongoDB 2.0
mongos> db.runCommand({'enablesharding': <database name>})

# Post MongoDB 2.0
mongos> sh.enableSharding(<database name>)
```

Shard a collection:

```
# Pre MongoDB 2.0
mongos> db.runCommand({'shardcollection': <namespace>, 'key': <shard key>})

# Post MongoDB 2.0
mongos> sh.shardCollection(<namespace>, <shard key>)
```

Important Sharding Commands

```
sh.help()
db.printShardingStatus()
```

Exercises

1. Set up a sharded cluster on your local machine using the instructions above.
2. Generate some simple data using the example from the "General Ops Notes" page.
3. Shard the collection on a field (or fields) other than _id.
4. Explore the config db. Query the changelog and locks collections.