The Mongodb Cheat Sheet
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#_ the Mongodb Ultimate [Cheat Sheet

1. Setup & Management:● mongod: Start the MongoDB server.● mongo: Connect to a running MongoDB server.● mongos: Start a mongos server for sharding.● mongodump: Backup MongoDB database.● mongorestore: Restore MongoDB database from backup.● mongoexport: Export a collection to JSON or CSV.● mongoimport: Import content from JSON or CSV into a collection.

2. Basic Shell Commands:● show dbs: List all databases.● use <dbname>: Switch to database or create it if it doesn't exist.● show collections: List all collections in the current database.● db.help(): Display help for MongoDB commands in the shell.

3. CRUD Operations:● db.collection.insert(document): Insert a document.● db.collection.find(): Retrieve documents.● db.collection.update(criteria, changes): Update documents.● db.collection.delete(criteria): Delete documents.● db.collection.save(document): Update an existing document orinsert a new one.● db.collection.replaceOne(filter, replacement): Replace a document.

4. Querying:● db.collection.find({field: value}): Query by specific field value.● db.collection.find({field: {$gt: value}}): Query for documentswhere field value is greater than a specified value.● db.collection.find().sort({field: 1}): Sort query results inascending order by field.● db.collection.find().limit(n): Limit query results to n documents.By: Waleed Mousa ● db.collection.find().skip(n): Skip the first n results of a query.● db.collection.findOne(): Retrieve a single document.● db.collection.count(): Count documents that match a query.

5. Advanced Queries:● db.collection.find({$or: [{field1: value1}, {field2: value2}]}):Query using the OR condition.● db.collection.find({field: {$in: [value1, value2, ...]}}): Querywhere field value is in the specified array.● db.collection.find({field: {$exists: true/false}}): Query documentswhere a field does or doesn't exist.● db.collection.find({field: {$type: BSONType}}): Query by BSON type.

6. Aggregation:● db.collection.aggregate(): Process data and return computedresults.● $group: Group by some specified expression.● $sort: Sort documents.● $limit: Limit the number of documents.● $skip: Skip specified number of documents.● $unwind: Deconstructs an array field.

7. Indexing:● db.collection.createIndex({field: 1}): Create an index on a field.● db.collection.getIndexes(): List all indexes on a collection.● db.collection.dropIndex(indexName): Remove an index.● db.collection.reIndex(): Rebuild indexes.8. Administration:● db.runCommand({commandName: 1}): Run a database command.● db.dropDatabase(): Drop the current database.● db.collection.drop(): Drop a collection.● db.collection.stats(): Returns statistics about the collection.By: Waleed Mousa

9. Replication:● rs.initiate(): Initialize a new replica set.● rs.add(host): Add a member to the replica set.● rs.status(): View the status of the replica set.● rs.conf(): View the replica set's configuration.● rs.remove(host): Remove a member from the replica set.

10. Sharding:● sh.status(): Show sharding status.● sh.addShard(shardURL): Add a shard to a cluster.● sh.enableSharding(database): Enable sharding for a database.● sh.shardCollection(namespace, key): Enable sharding for acollection.

11. Monitoring & Diagnostics:● mongostat: Provide statistics about MongoDB's state.● mongotop: Monitor read/write activity on a per-collection level.● db.serverStatus(): Retrieve server status.● db.currentOp(): Show in-progress operations.● db.killOp(opid): Kill a specific operation.

12. User and Role Management:● db.createUser(userDocument): Create a new user.● db.dropUser(username): Delete a user.● db.updateUser(username, fields): Update user data.● db.createRole(roleDocument): Create a new role.● db.dropRole(roleName): Delete a role.

13. Security & Authentication:● --auth: Start MongoDB with authentication.● db.auth(username, password): Authenticate a user.● --sslMode requireSSL: Start MongoDB with SSL.By: Waleed Mousa

14. Storage:● --storageEngine wiredTiger: Specify the WiredTiger storage engine.● db.collection.storageSize(): Retrieve the storage size for acollection.● db.collection.totalSize(): Retrieve the total size of a collectionincluding all indexes.

15. Backup & Restore:● mongodump --db mydb: Backup a specific database.● mongorestore --dir /path/to/backup: Restore from a specific backupdirectory.

16. Import & Export:● mongoexport --collection mycol --out mycol.json: Export acollection to JSON.● mongoimport --collection mycol --file mycol.json: Import acollection from JSON.

17. Utilities:● db.fsyncLock(): Lock a mongod instance for maintenance.● db.fsyncUnlock(): Unlock a mongod instance.

18. Text Search:● db.collection.createIndex({field: "text"}): Create a text index.● db.collection.find({$text: {$search: "query"}}): Perform a textsearch.

19. GridFS:● mongofiles: Utility for putting and getting files from MongoDBGridFS.● db.fs.files.find(): Find files stored in GridFS.By: Waleed Mousa

20. Miscellaneous Commands & Concepts:● $elemMatch: Query for array elements.● $upsert: Insert a new document if no document matches the querycriteria.● $set: Set the value of a field.● $unset: Remove a field.● $push: Append a value to an array.● $pop:

Remove the first or last element of an array.● $addToSet: Add a value to an array unless it already exists.● db.collection.explain(): Explain a query.● db.collection.distinct(field): Find distinct values for a field.● db.collection.mapReduce(map, reduce, options): Perform a map-reduceoperation.● ObjectId(): Create a new ObjectId.● db.printReplicationInfo(): Print replication info.● db.printShardingStatus(): Print sharding info.

21. Advanced Features & Options:● db.runCommand({collMod: "collection", usePowerOf2Sizes: true}):Modify collection options.● db.collection.isCapped(): Check if a collection is capped.● --oplogSize: Set the oplog size.● --replSet "rsname": Start mongod as a member of replica set"rsname".● db.setProfilingLevel(level): Set the database profiling level.● db.getProfilingStatus(): Check the database profiling status.● db.collection.aggregate([{ $lookup: options }]): Left outer join oftwo collections.● --bind_ip: Bind MongoDB to listen to a specific IP address.● --fork: Run MongoDB in the background.● --logpath: Specify the log file path.By: Waleed Mousa

22. Troubleshooting & Help:● db.getLastError(): Return the error message from the lastoperation.● db.printSlaveReplicationInfo(): Print status of all replica setmembers.● mongo --help: Display help about command line options.● db.getCollection("collection").help(): Display help on collectionmethods.

23. Connection & Networking:● --port: Specify the port number for MongoDB to listen on.● db.getMongo(): Returns the current connection instance.● db.getMongo().setReadPref("secondary"): Set read preference tosecondary nodes.● db.getMongo().setSlaveOk(): Allows queries on replica setsecondaries.

24. Diagnostic Commands:● db.collection.validate(): Validates the structure of data.● db.runCommand({whatsmyuri: 1}): Returns the client's connectionstring.● db.hostInfo(): Provides details about the system MongoDB isrunning on.● db.collection.getShardDistribution(): Shows data distribution amongshards.

25. Schema Design:● db.createCollection("name", options): Explicitly creates acollection with options.● db.collection.isCapped(): Determines if a collection is a cappedcollection.● $jsonSchema: Allows you to specify schema validation in thecollection level.By: Waleed Mousa

26. Advanced Aggregation:● $lookup: Joins documents from another collection.● $graphLookup: Performs recursive search on a collection.● $facet: Processes multiple aggregation pipelines within a singlestage.● $bucket: Categorizes incoming documents into specific ranges.● $bucketAuto: Categorizes incoming documents into a specified numberof equally sized ranges.

27. Concurrency & Transactions:● db.beginTransaction(): Starts a multi-document transaction.● db.commitTransaction(): Commits the active transaction.● db.abortTransaction(): Aborts the active transaction.

28. Maintenance & Clean-up:● db.repairDatabase(): Repairs the current database. Use withcaution as this can be blocking and lengthy.● db.compactCollection(): Compacts a

collection, reducing storageuse.● db.collection.reIndex(): Rebuilds all indexes on a collection.

29. BSON Types & Handling:● ObjectId("string"): Creates an ObjectId from the given string.● $binary: Represents binary data.● $date: Represents a specific date.● $timestamp: Represents a BSON timestamp value.

30. Geospatial Queries:● db.collection.createIndex({location: "2d"}): Creates a 2Dgeospatial index.● $near: Returns geospatial objects closest to a point.● $geoWithin: Returns objects within a certain geospatial shape.By: Waleed Mousa

31. TTL (Time-To-Live) Collections:● db.collection.createIndex({field: 1}, {expireAfterSeconds:seconds}): Sets up a TTL index which automatically removesdocuments after a certain time.

32. Miscellaneous:● db.setLogLevel(level): Changes the log level.● $redact: Reshapes each document in the stream by restricting thecontent for each document based on information stored in thedocuments themselves.● $merge: Writes the results of the aggregation pipeline to aspecified collection.● db.getReplicaSetStatus(): Returns the status of the replica setfrom the POV of the server it's run on.● db.setFeatureCompatibilityVersion("version"): Sets the featurecompatibility version of MongoDB.