mongosh MongoDB shell

CONCEPTS

mongosh is a JavaScript shell: db is the current database, db.<name> a collection, and any JS works.

Deployment server or cluster
- **Database** db / use <db>
  - **Collection** db.users
    - **Document** BSON object

CONNECT

`mongosh`
Connect to localhost:27017

`mongosh "mongodb://<host>:27017/<db>"`
Connect with a URI

`mongosh --host <host> --port <port> -u <user> -p`
Connect with options, prompt for password

`--eval "<js>" <uri>`
Run JavaScript and exit

`mongosh <uri> <file.js>`
Run a script file then exit

`exit / quit()`
Leave the shell

INSPECT

`show dbs`
List databases

INSPECT (cont.)

`use <db>`
Switch database

`db`
Print the current database name

`show collections`
List collections

`db.<coll>.countDocuments({})`
Count matching documents

`db.<coll>.getIndexes()`
List indexes

READ

`db.<coll>.find()`
All documents (first batch)

`db.<coll>.find({ <field>: <value> })`
Match on equality

`db.<coll>.findOne({ <filter> })`
First match as one document

`db.<coll>.find({}, { <f>: 1 })`
Projection: pick fields

`db.<coll>.find().sort({ <f>: -1 })`
Sort, 1 ascending, -1 descending

`db.<coll>.find().limit(<n>)`
Cap results; chain .skip(<n>) to page

READ (cont.)

`db.<coll>.find(<filter>).explain("executionStats")`
Show how the query ran

Query operators

Operator	Meaning
`$eq $ne`	equals, not equals
`$gt $gte $lt $lte`	comparison
`$in $nin`	value in / not in list
`$and $or $nor`	combine conditions
`$not`	negate an operator
`$exists`	field is present
`$type`	BSON type check
`$regex`	pattern match
`$elemMatch`	one array element matches all
`$size`	array length
`$all`	array holds every value
`$expr`	compare fields, use aggregation expressions

WRITE

`db.<coll>.insertOne({ <doc> })`
Insert one document

`db.<coll>.insertMany([{}, { }])`
Insert several documents

WRITE (cont.)

`db.<coll>.updateOne(<filter>, { $set: { <f>: <v> } })`
Change first match

`db.<coll>.updateMany(<filter>, { $set: { } })`
Change all matches

`db.<coll>.updateOne(<filter>, <update>, { upsert: true })`
Insert if nothing matches

`db.<coll>.deleteOne(<filter>)`
Delete first match

`db.<coll>.deleteMany(<filter>)`
Delete all matches

An update without an operator like $set is rejected; use replaceOne to swap a document.

AGGREGATION

`db.<coll>.aggregate([<stage>])`
Run a pipeline of stages

`{ $match: { <filter> } }`
Filter documents early

`{ $group: { _id: "$<f>", n: { $sum: 1 } } }`
Group and count

`{ $sort: { <f>: -1 } }`
Order the stream

AGGREGATION (cont.)

`{ $project: { <f>: 1, <new>: "$<g>" } }`
Reshape documents

`{ $lookup: { from, localField, foreignField, as } }`
Left join another collection

INDEXES

`db.<coll>.createIndex({ <f>: 1 })`
Create an ascending index

`db.<coll>.createIndex({ <a>: 1, <b>: -1 })`
Compound index, order matters

`db.<coll>.createIndex({ <f>: 1 }, { unique: true })`
Enforce uniqueness

USERS & ADMIN

`db.createUser({ user: "<u>", pwd: passwordPrompt(), roles: ["readWrite"] })`
Create a user, ask for password

DUMP & RESTORE

`mongodump --uri="<uri>" --out=<dir>`
Dump databases to BSON files