MongoDB Crash Course

ComputeFest
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Installation

OS X: https://www.youtube.com/watch?v=G--uGbOFF9E
(you may need to add “sudo” as a prefix to every installation command)

Windows: https://www.youtube.com/watch?v=K_5mj3-_uJQ
Starting MongoDB

Commands to run are in blue

Start server. Open terminal window and run:

```
mkdir DB
mongod --dbpath DB
```

Start client. Open different terminal and run:

```
mongo
```
Looks like this:

Server window

Client window
Create a Collection (in client)

Create a database entry

```javascript
var customer = {name: "bob", balance: 100}
db.customers.insert(customer)
```

We now have one collection of customers

```javascript
show collections
```

In the collection, we have one customer

```javascript
db.customers.find()
```
Pretty Printing

Print things nicely

db.customers.find().pretty()

Note that each document within a collection has a unique ID that is created automatically
Filtering

Create another customer

```javascript
var customer2 = {name: "sara", balance: 200}
db.customers.insert(customer2)
```

Again, list all customers:

```javascript
db.customers.find().pretty()
```

List customers called Sara

```javascript
db.customers.find({name: "sara"}).pretty()
```

List customers with balance greater than 150

```javascript
db.customers.find( { balance: { $gt: 150} } ).pretty()
```
Updating Documents

Give bob a surname

db.customers.update(
    {name : "bob"},
    {$set : {surname: "Dylan"}}
)

Add 50 to Bob’s account

db.customers.update({name : "bob"},
    {$inc : {balance: 50}}
)

Check outcome

db.customers.find().pretty()
Copying a Document

Create a copy of Bob

```javascript
var cust = db.customers.findOne({name: "bob"})
```

Print the surname of the copy

```javascript
cust["surname"]
```

Change the surname of the copy

```javascript
cust["surname"] = "Marley"
```
Saving a Copy to the Database

Try to save the copy in the database (won’t work)
    db.customers.insert(cust)

Generate a new object ID
    var o = ObjectId()

Assign the new ID to the copy
    cust["_id"] = o

Now try to insert again
    db.customers.insert(cust)
Aggregation

Find sum of all account balances

db.customers.aggregate([ { $group: { _id: null, total: { $sum: "$balance" } } } ] )
Shut down server

Shut down the server and quit client

use admin
db.shutdownServer()
exit
Thanks!