GETTING STARTED WITH MONGODB FOR CFML DE-VELOPERS

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WHO IS THIS OLD GUY?

Please change me!

WHY ARE WE HERE?

Please change me!

WHAT IS MONGODB?

- Data store like you've maybe never seen before.
- Document oriented, not table/row oriented
- Embedded data over foreign keys
- Not transactional
- Easily replicated and sharded for high availability / performance

TABLES VS DOCUMENTS

courtId	courtName	jurisdiction	active	courtTypeId	state
1202	Alabama, Middle District	Federal	1	3	ALABAMA
1203	Alabama, Northern District	Federal	1	3	ALABAMA
1204	Alabama, Southern District	Federal	1	3	ALABAMA
1205	Alaska	Federal	1	3	ALASKA
1206	Arizona	Federal	1	3	ARIZONA
1207	Arkansas, Eastern District	Federal	1	3	ARKANSAS
1208	Arkansas, Western District	Federal	1	3	ARKANSAS
1209	California, Central District	Federal	1	3	CALIFORNIA
1210	California, Eastern District	Federal	1	3	CALIFORNIA
1211	California, Northern District	Federal	1	3	CALIFORNIA
1212	California, Southern District	Federal	1	3	CALIFORNIA
1213	Colorado	Federal	1	3	COLORADO
1214	Connecticut	Federal	1	3	CONNECTICUT

```
{
        "_id" : ObjectId("534375d40fff56a472b25891"),
        "courtName" : "Alabama, Middle District",
        "jurisdiction" : "Federal",
        "active" : true,
        "courtType" : "District",
        "state" : "Alabama"
}
```

WHY MONGODB?

- It's FAST!
- It's FLEXIBLE!
- It's FORGIVING!

INSTALL IT ALREADY

Ok fine, Mr/Mrs Impatient

Full install instructions at
http://docs.mongodb.org/manual/installation/

MAC / *NIX INSTALLATIONS

Using a package manager

```
brew install mongodb
yum install mongo-10gen mongo-10gen-server
sudo apt-get install mongodb-10gen
```

Direct Download and Extract

```
curl -O http://downloads.mongodb.org/osx/mongodb-osx-x86_64-2.4.10.tgz
tar -zxvf mongodb-osx-x86_64-2.4.10.tgz
mv ./mongodb-osx-x86_64-2.4.10 /mongodb
```

WINDOWS INSTALLATIONS

Direct Download and Extract

- Download the binary to match your system architecture from http://www.mongodb.org/downloads
- Unzip the file to c:\mongodb

Install as a Windows Service

```
C:\mongodb\bin\mongod.exe --config C:\mongodb\mongod.cfg --install
```

Using Chocolatey package manager

```
cinst mongodb
```

NOW WHAT?

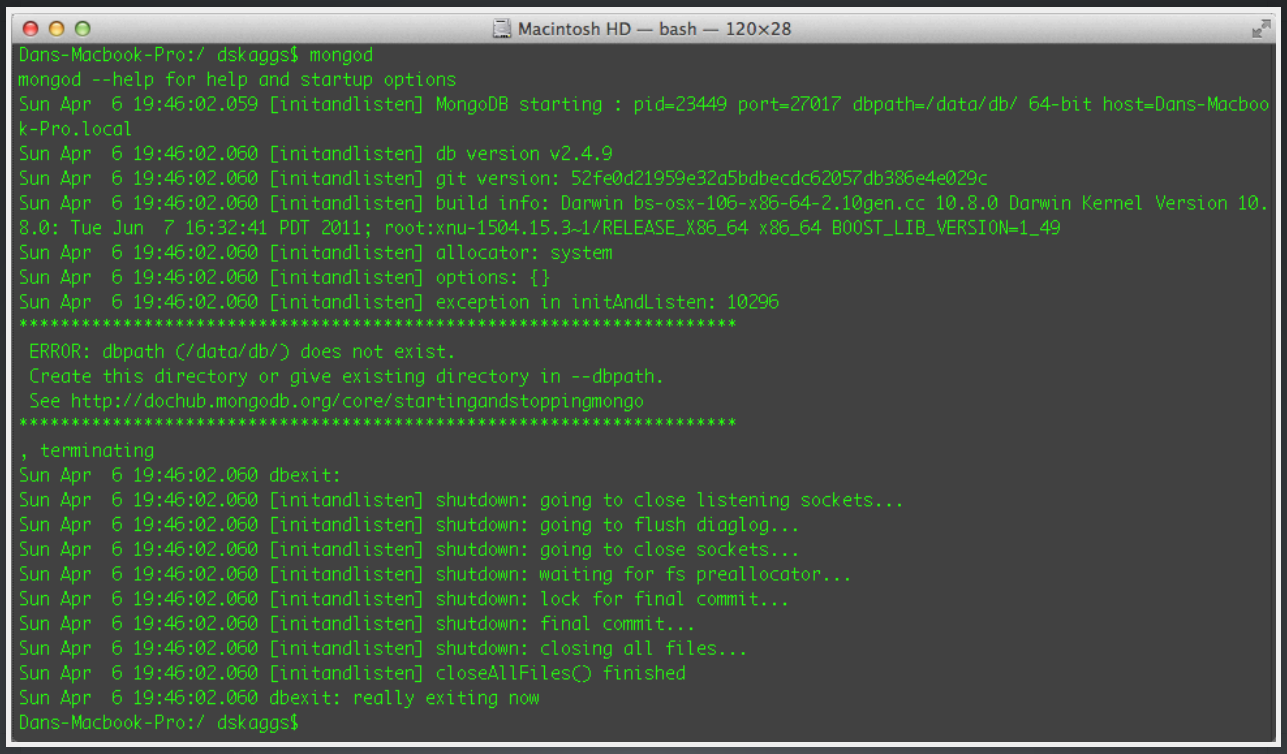
Hint: Run it!

Mac / *nix

```
mongod
```

Windows

```
c:\mongodb\bin\mongod.exe
```


Macintosh HD — bash — 120×28
Dans-Macbook-Pro:/ dskaggs$ mongod
mongod --help for help and startup options
Sun Apr 6 19:46:02.059 [initandlisten] MongoDB starting : pid=23449 port=27017 dbpath=/data/db/ 64-bit host=Dans-Macbook-Pro.local
Sun Apr 6 19:46:02.060 [initandlisten] db version v2.4.9
Sun Apr 6 19:46:02.060 [initandlisten] git version: 52fe0d21959e32a5bdbecdc62057db386e4e029c
Sun Apr 6 19:46:02.060 [initandlisten] build info: Darwin bs-osx-106-x86-64-2.10gen.cc 10.8.0 Darwin Kernel Version 10.8.0: Tue Jun 7 16:32:41 PDT 2011; root:xnu-1504.15.3~1/RELEASE_X86_64 x86_64 BOOST_LIB_VERSION=1_49
Sun Apr 6 19:46:02.060 [initandlisten] allocator: system
Sun Apr 6 19:46:02.060 [initandlisten] options: {}
Sun Apr 6 19:46:02.060 [initandlisten] exception in initAndListen: 10296
ERROR: dbpath (/data/db/) does not exist.
Create this directory or give existing directory in --dbpath.
See http://dochub.mongodb.org/core/startingandstoppingmongo
, terminating
Sun Apr 6 19:46:02.060 dbexit:
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: going to close listening sockets...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: going to flush diaglog...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: going to close sockets...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: waiting for fs preallocator...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: lock for final commit...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: final commit...
Sun Apr 6 19:46:02.060 [initandlisten] shutdown: closing all files...
Sun Apr 6 19:46:02.060 [initandlisten] closeAllFiles() finished
Sun Apr 6 19:46:02.060 dbexit: really exiting now
Dans-Macbook-Pro:/ dskaggs$

CONFIGURE YOUR DATA DIRECTORIES

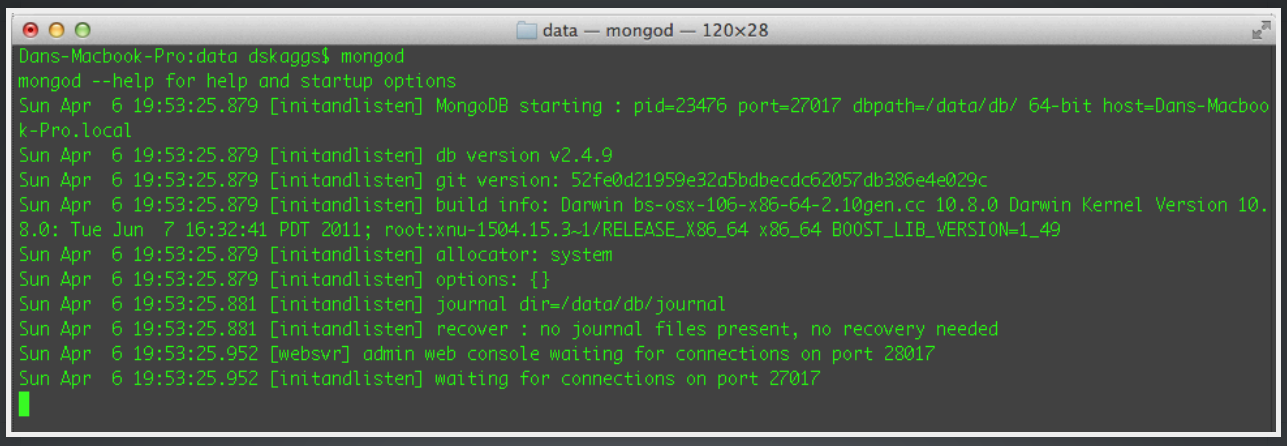
Create the required directories:

- Mac / *nix: /data/db
- Windows: c:\data\db

Non-defaults can be used with a command line option:

```
mongod --dbpath /path/to/my/folder
mongod.exe --dbpath "d:\path\to\my\folder"
```

SUCCESS!


data — mongod — 120×28
Dans-Macbook-Pro:data dskaggs$ mongod
mongod --help for help and startup options
Sun Apr 6 19:53:25.879 [initandlisten] MongoDB starting : pid=23476 port=27017 dbpath=/data/db/ 64-bit host=Dans-Macbook-Pro.local
Sun Apr 6 19:53:25.879 [initandlisten] db version v2.4.9
Sun Apr 6 19:53:25.879 [initandlisten] git version: 52fe0d21959e32a5bdbecdc62057db386e4e029c
Sun Apr 6 19:53:25.879 [initandlisten] build info: Darwin bs-osx-106-x86-64-2.10gen.cc 10.8.0 Darwin Kernel Version 10.8.0: Tue Jun 7 16:32:41 PDT 2011; root:xnu-1504.15.3~1/RELEASE_X86_64 x86_64 BOOST_LIB_VERSION=1_49
Sun Apr 6 19:53:25.879 [initandlisten] allocator: system
Sun Apr 6 19:53:25.879 [initandlisten] options: {}
Sun Apr 6 19:53:25.881 [initandlisten] journal dir=/data/db/journal
Sun Apr 6 19:53:25.881 [initandlisten] recover : no journal files present, no recovery needed
Sun Apr 6 19:53:25.952 [websvr] admin web console waiting for connections on port 28017
Sun Apr 6 19:53:25.952 [initandlisten] waiting for connections on port 27017

HOOK ME UP WITH SOME DATA!

- mongo - Command Line client
- CFMongoDB - DSL for using MongoDB from CFML
- Railo MongoDB Plugin

MONGO COMMAND LINE CLIENT

```
> db.burials.find( {'last_name': 'Graham', 'cemetery_state': 'AL' })
    .limit(1).pretty()
{
        "_id" : ObjectId("53341d9f9b46a8412acf580f"),
        "first_name" : "Thomas",
        "last_name" : "Graham",
        "suffix" : "Jr",
        "cemetery_name" : "FORESTLAWN GARDENS",
        "cemetery_addr_one" : "730 GOLDEN SPRINGS RD",
        "cemetery_city" : "ANNISTON",
        "cemetery_state" : "AL",
        "cemetery_zip" : 36207,
        "relationship" : "Veteran (Self)",
        "branch" : "US ARMY",
        "rank" : "SSG",
        "war" : "VIETNAM"
}
>
```

CFMONGODB

- Could just use Java driver but why reinvent the wheel
- Easy to use custom DSL or API built in
- Multiple people already have done a lot of work to make it easy to communicate with MongoDB through the Java driver
- Allows nearly seamless translating of ColdFusion structs and arrays to MongoDB and vice versa
- Works with ColdFusion 9.01+ and Railo 3.2+

RAILO EXTENSION

- Need research here

SHOW ME SOME CODE!

ABOUT THE DATA...

Please change me!

CFMONGODB CODE SAMPLES

Please change me!

RAILO PLUGIN CODE SAMPLES

Please change me!

JUST THE CRUD MA'AM

Please change me!

AGGREGATION: IT'S BLACK MAGIC

Please change me!

AFTER CLASS HOMEWORK

Please change me!

GET IN TOUCH

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