GETTING STARTED WITH MONGODB FOR CFML DEVELOPERS

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Why you're here

- Hear about what MongoDB is

- See how easy it is to install for development

- Learn how to start putting data in and getting data out with Adobe ColdFusion and Railo CFML engines

- Hopefully **not** expecting to know everything there is to know about MongoDB when you leave here today

  - Session is designed to "whet your appetite"

Obligatory "About Me" slide

- Began experimenting with HTML in 1997 after the birth of our twins while on active duty with the U.S. Air Force

- Staff developer for a company headquartered in San Jose, CA for 8 1/2 years

- Began with Allaire ColdFusion 4.5 in 2000 as part of a Spectra 1.0 project

- Have developed on every Allaire/Macromedia/Adobe ColdFusion version since then *

- Have done several projects of varying sizes with Railo

- Independent consultant since 2006 working with clients of all sizes across the U.S. building applications on multiple CFML engines and versions

- Contributing partner and build master for the Model-Glue MVC framework for CFML

- Also enjoy shooting, coaching basketball, amateur (HAM) radio and video games

What is MongoDB?

Long, boring definition

[1]MongoDB is an open-source document database, and the leading NoSQL database. Written in C++, MongoDB features document-oriented storage, full index support, replication and high availability…

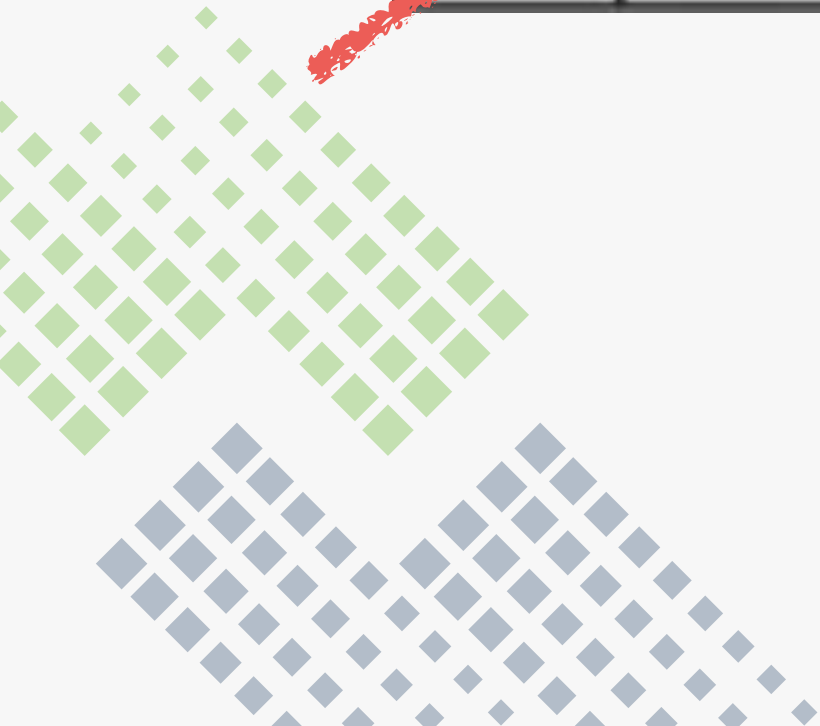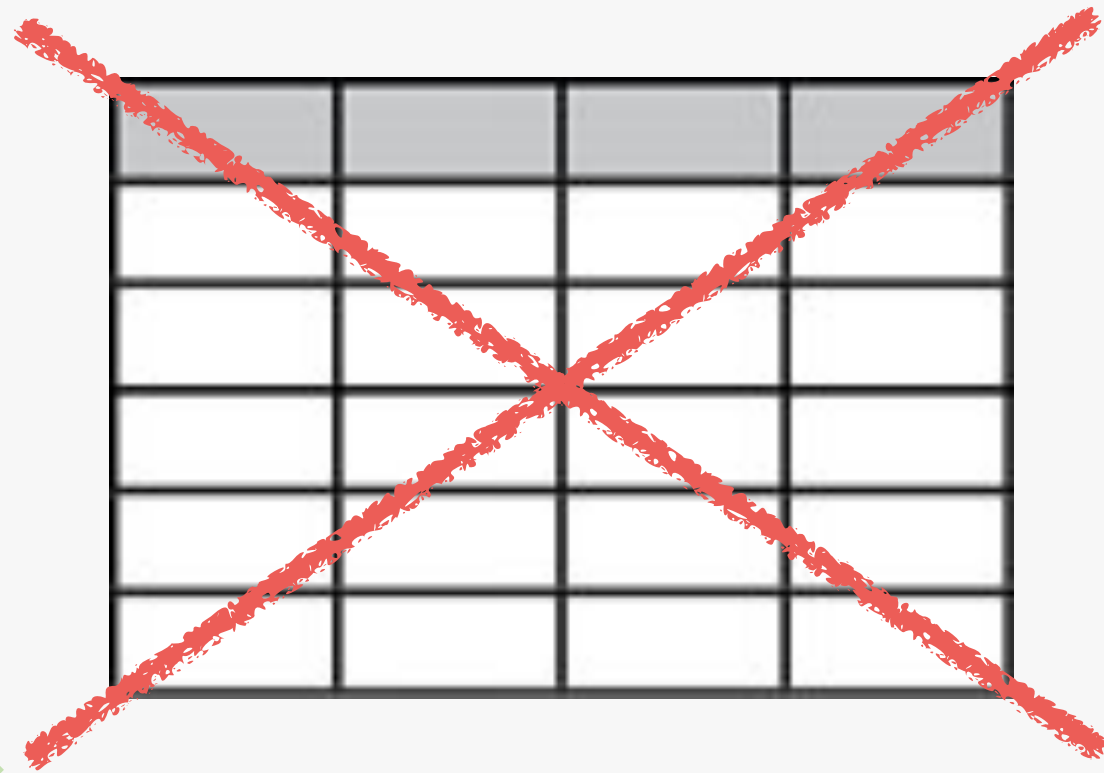## ZZZZZZZZZZZ...

[1] www.mongodb.org

Usable definition

MongoDB is a different way of storing data than what we've been used to with relational databases.

DIFFERENT HOW!?!?

TABLE/ROW vs DOCUMENT

Document-Oriented Storage

```
{
    "city" : "MINNEAPOLIS",
    "latitude": 44.967345,
    "longitude": -93.282841,
    "pop" : 14098,
    "state" : "MN",
    "_id" : "55403"
}
```

OTHER DIFFERENCES

"Schema-less"*

MongoDB doesn't care if not all documents in a collection have the same fields

Embed Data vs Foreign Key Linkage

MongoDB preference is to embed related data as a nested document
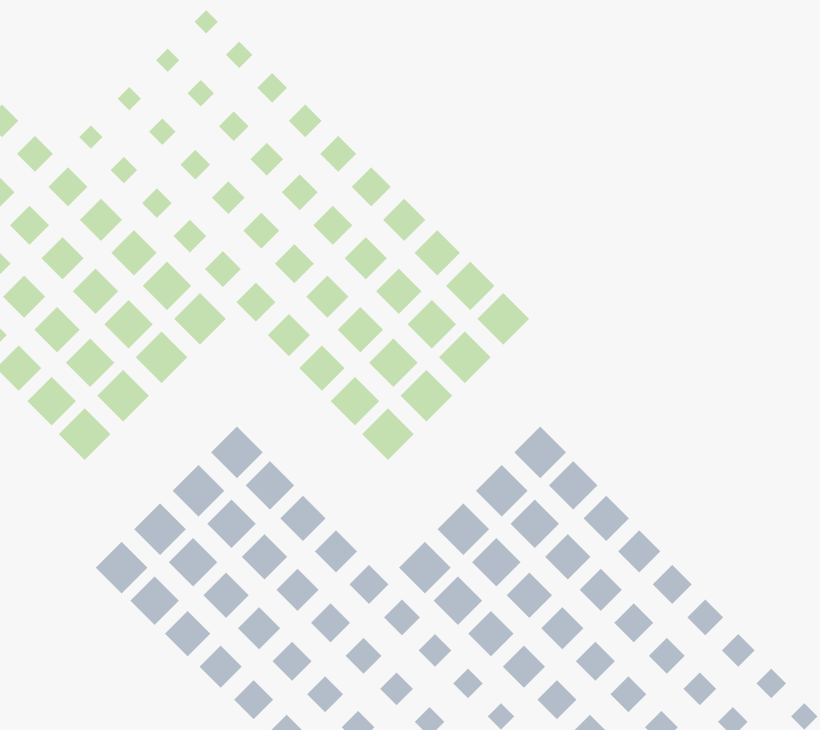
Document-Oriented Storage

```
{
    "city" : "MINNEAPOLIS",
    "loc" : [
        -93.282841,
        44.967345
    ],
    "postoffice": {
        "address1": "100 S 1ST ST",
        "phone": "612-349-4713",
        "tty": "877-889-2457"
    },
    "pop" : 14098,
    "state" : "MN",
    "_id" : "55403"
}
```

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Easily Replicated

Easily replicate data across 3+ MongoDB instances for fault tolerance and performance improvements

WHY MONGODB?

THE GOOD, THE BAD, THE…

- It's FAST

- It's FLEXIBLE

- It's FORGIVING

- No transactions

- No JOINs

- No data write guarantee *

- No documents over 16MB

- No direct cross-over from SQL language most of us are used to

Installation

MAC / *NIX INSTALLATIONS

Using A Package Manager

```
brew install mongodb

yum install mongo-10gen mongo-10gen-server

apt-get install mongodb-10gen
```

Download & Unzip

http://www.mongodb.org/downloads

WINDOWS INSTALLATIONS

Download & Unzip

http://www.mongodb.org/downloads

Using Chocolatey Package Manager

```
cinst mongodb
```

Install as a Windows Service

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

OK, NOW WHAT?

Hint: Run It!

Mac / *nix

```
mongod
```

Windows

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

SUCCESS! Or, wait a minute….

Whoops

DATA DIRECTORIES

MongoDB does not auto create your data directories

Mac / *nix

```
/data/db
```

Windows

```
c:\data\db
```

Use a Custom Data Directory
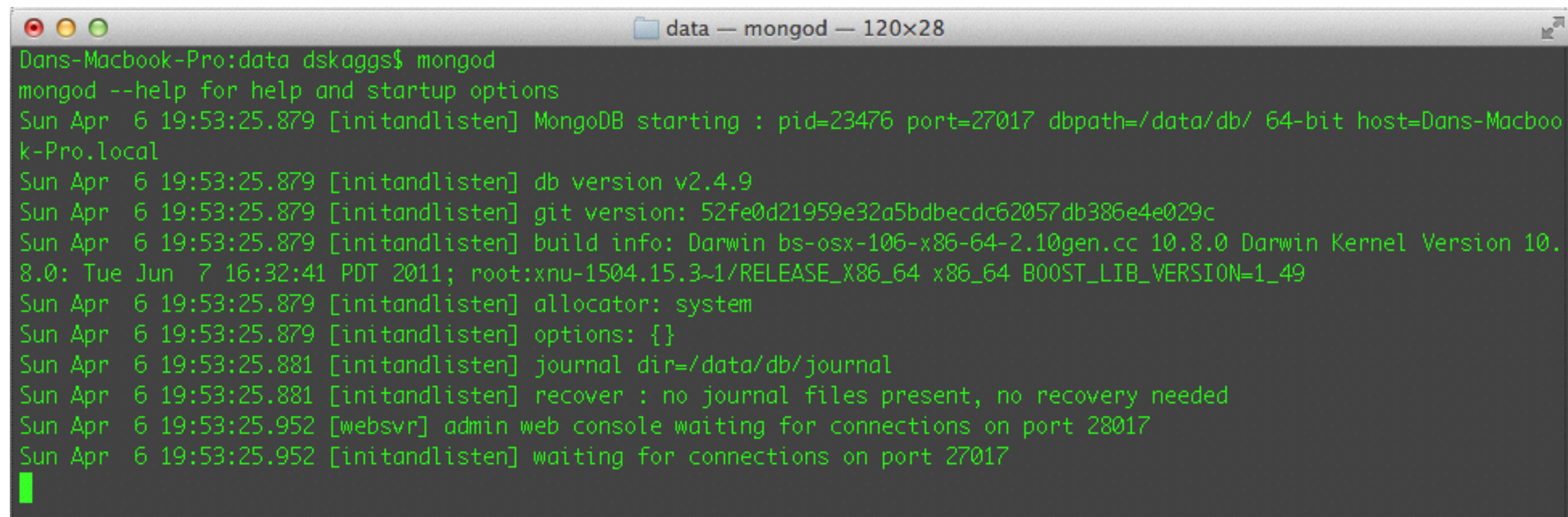
```
mongod --dbpath /path/to/my/folder
mongod.exe --dbpath "d:\path\to\my\folder"
```

Maybe this time…..

SUCCESS!

TO THE DATA!

ABOUT THE DATA

MongoDB dataset of US zip codes includes

City
State
Population
Longitude / Latitude

29,467 zip codes
25,815 city/state combinations

MONGO COMMAND LINE

```
> db.zipcodes.find({
    'state': 'MN',
    'city': 'MINNEAPOLIS'
    }).skip(2).limit(1).pretty();

{
    "city" : "MINNEAPOLIS",
    "loc" : [
        -93.282841,
        44.967345
    ],
    "pop" : 14098,
    "state" : "MN",
    "_id" : "55403"
}
```

DEMO TIME

Resources

- <u>MongoDB.org</u>

- MongoDB University

- CFMongoDB GitHub Repo

Questions?

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