# Masters of MongoDB

The Coding Bootcamp

# Today's Objectives

Projects Recap

Install MongoDB/Robo 3T

Introduce MongoDB

Queries / CRUD with MongoDB

Install/Introduce Robo 3T

# *Project Recap*

# Project Recap

***Awesome Job***

(Y’all don’t need memes anymore. You are professionals now.)

# Just Kidding.

# The Clear Positives

- **(++) You stayed ambitious**
- **(++) You made smart decisions feature-wise**
- **(++) You demonstrated technical mastery**
- **(++) You learned a ton of learning on your own**
- **(++) You closed-out**
- **(++) You *dominated***
- **(++) You didn’t make excuses even when you had them.**

# Advice For Next Time

1. **Always Start with Guns Blazing**
   The first 30 seconds always count. Always come ready to impress. Show a demo. Say something interesting.

2. **Practice, Practice, Practice**
   The difference between good speakers and weak ones is in the execution of minor details. Don’t get lost in transitions. Don’t get lost looking for your code.

3. **Don’t be afraid to take charge**
   Learn to start being confident. Chime in when you can. Look for ways to lead in the groups you find yourself in.

# Next Steps

1. **Gif your GitHub Readme:**
   Back-end projects like the ones you completed are harder to “see” for a recruiter. Throw in a Gif that flips through all the screens of your project. There are plenty of ways to record a video and convert it to Gif. *This will look really impressive*.

2. **Create a Guest Login:**
   Have a “dummy” Guest login to enter your application. Make it easily apparent on your readme.

3. **Write a Tutorial:**
   Pitch a tutorial to scotch.io if you used any unusual libraries. You will get $$$ and you will build credibility.

# Next Steps

4. **List your Niche Skills on LinkedIn:**
   All of you should be listing out Node, Express, SQL, Data Visualization, etc. on your Linkedin Pages.

5. **List your Project on LinkedIn:**
   If you don't have a lot of tech experience on LinkedIn milk the project you created for all it's worth – especially if it was really good.

6. **Consider Writing each Other Recommendations:**
   I will remind you about this later as well… but consider writing recommendations for your group members and peers. Right now, you all are "students", but you won't be for long. Spread the credit!

# *Road Ahead…*

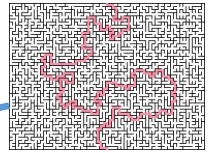
# The Road Ahead…

## Your Castle of Knowledge


## *Your Final Journey*

mongoDB

React



Alg1: $O(n^2)$
Alg2: $O(2^n)$
Alg3: $O(n\ln(n))$
Alg4: $O(n^3)$
Alg5: $O(n!)$

# Double Down

*It's time to double-down and make sure you have a strong foundation.*

- You have access to myself and the TAs for 2 months.
- Look through the code base. Identify your weaknesses.
- Schedule a help session during office hours.
- And put in the hard hours!
- This is the **absolute best** time to learn this material.

# Start Now.


***Because let's be real.***

***You aren't going to start when you graduate.***

# Your Goals – Beginning of the Year

"To land a solid career.. and be able to support a family."

"Hope to make something of myself one day…"

"An opportunity to be more creative in my day-to-day work."

"…to get a better paying job."

"I want nothing more in the entire world than to be a game designer."

"Change careers and become a web developer."

"…to build mastery. To learn a skill that I haven't yet explored."

"[a chapter] better than the last."

# For Reference…


***Students who tend to be doing well in our classes are putting in an average of <u>17 hours per week</u>.***

# *MongoDB*

# What's MongoDB?

- **MongoDB is a very popular noSQL Database**
- **It uses a document-oriented model** as opposed to a table-based relational model (SQL)
- MongoDB stores data in **BSON Format** (effectively compressed JSONs)
- MongoDB has tons of **drivers and packages** for connecting to Node, C++, Java, etc.

# Relational Databases (SQL)

| ID | Title | Author | Published |
|---|---|---|---|
| 1 | The History of Blah | Blah Matic | 2010 |
| 2 | The Chronicles of Blahrnia | Sir Blahston | 2011 |
| 3 | Love in the Time of Blah | Gabriel Garcia Blah | 2013 |

***SQL relies on Joins to combine relevant data***

| Author | Email | Phone Number |
|---|---|---|
| Blah Matic | blahston@gmail.com | 911-546-5454 |
| Sir Blahston | blahby@gmail.com | 911-544-5112 |
| Gabriel Garcia Blah | blahby231@gmail.com | 125-215-5645 |

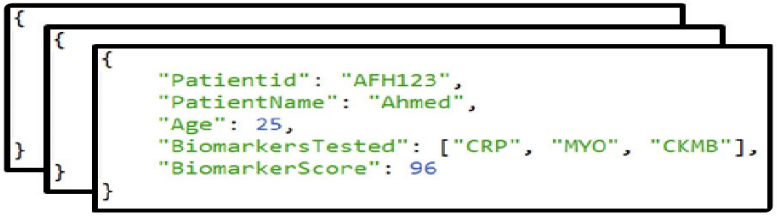
# Document Database (noSQL)


- ***noSQL Databases on the other hand are effectively JSONs.***
- ***They excel at heterogeneous data formats and are easy to implement.***

# MongoDB Storage

**Database** composed of multiple collections

**Collection** composed of multiple documents




Individual **Document**

**Collection** composed of multiple documents


Individual **Document**

mongoDB

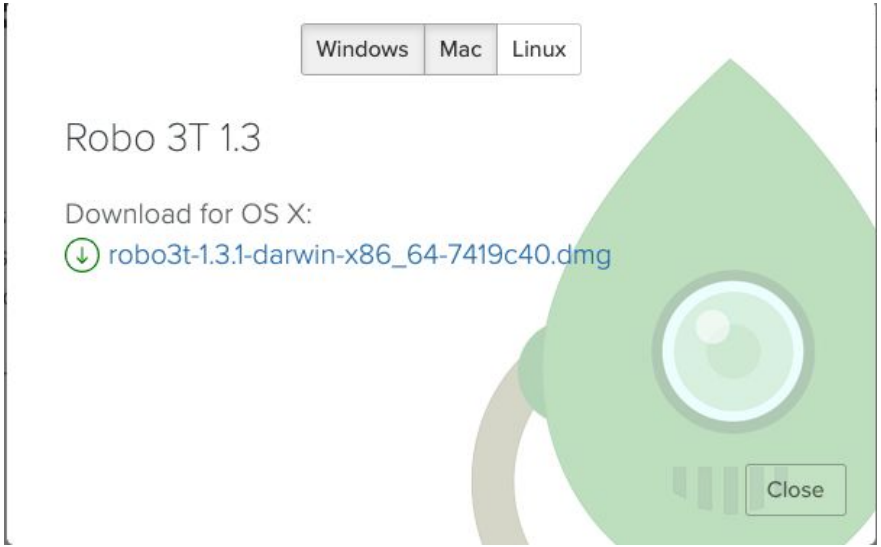
# MongoDB Storage

| SQL Term | noSQL Term |
| --- | --- |
| Database | **Database** |
| Table | **Collection** |
| Row | **Document** |
| Column | **Field** |

***Terms are slightly different in the noSQL context.***

*Take note!*

# Installing MongoDB / Robo 3T




**Install MongoDB** by using the Installing-MongoDB.md.

**Install Robo3T** goto https://robomongo.org/download and click the green download button.

# Students Do: Create, Insert and Find data in MongoDB (10 min)

**Open 02-Create-Insert-and-Find/Unsolved/README.md.**

# Creating, Inserting and Finding in MongoDB

* Use the command line to create a classroom database.
* Insert entries for yourself and the people in your row in a `students` collection.

**Each document should have:**

A field of `name`, `rownumber`, `os`, `hobbies`

**Query:**

A list of everyone in your row. An entry for a single person. The entries for all the Mac users in your row.

# Students Do: Update, Delete and Drop in MongoDB (15 min)

**Open 04-Student-Update-Delete-and-Drop/Unsolved/README.md**

* Go back to your classroom database.

* Add Extreme Basket Weaving to your array of hobbies.

* Change the operating system of the student next to you.

* Remove the student to the other side of you from your database.

* Add a field of `gavecandy` with a value of `false` to everyone in the array.

* Change the value of `gavecandy` to true for yourself.

# Students Do: MongoJS Sorting

**Open 06-Stu-MongoJS-Sorting/Solved/server.js solution on your machine, and run server.js with Node.**

Instructions:

Create four routes that display results from your zoo collection

0: Root: Displays a simple "Hello World" message (no mongo required).
1: All: Send JSON response with all animals
2: Name: Send JSON response sorted by name in ascending order
3: Weight: Send JSON response sorted by weight in descending order

# Students Do: MongoJS CRUD

**Open 07-Stu-Mongo-CRUD/Solved/server.js on your machine and demonstrate the solved version of the app by creating, updating and deleting a few notes.**

- Update the server.js file to include the following six routes.
- You can see a list of methods available to you here. https: github.com/mafintosh/mongojs#api.
- Save a note to the database's collection `POST: /submit`
- Retrieve all notes from the database's collection `GET: /all`
- Retrieve one note in the database's collection by it's ObjectId `GET: /find/:id`
- Update one note in the database's collection by it's ObjectId `POST: /update/:id`
- Delete one note from the database's collection by it's ObjectId `DELETE: /delete/:id`
- Clear the entire note collection `DELETE: /clearall`

# Students Do: Robot 3T Practice

**Activity located in 08-Stu-Robo-3T.**

**ONLY USE ROBO 3T FOR THIS ASSIGNMENT**

In a new classroom collection, re-enter your name, os, and hobby info array.

This should be entered using the right-click -> Insert Object method.
Next, Slack out your name, os and hobbies into the classroom chat.

As students enter their BSON info into slack, insert it into your database.

By the end of the exercise, you should have every student's information in your classroom collection.

# *Questions?*