

The **MEAN** Stack

MongoDB - Express.js - Angular.js - Node.js

Google Developer Group Waterloo

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What this presentation is?

- Sharing my newly found knowledge of the MEAN stack
- Showing how to build a simple real-time chat app using the stack + websockets

p.s new at JS, so if you catch anything, call me out!

Who am I?

- 3rd year Computer Science @ McMaster University
- Co-Founder & Engineering @ Woof.co
- Beginner JavaScript + 1 year iOS dev
- @Kurtbradd on Twitter & Github

What is the **MEAN** stack?

- MongoDB - noSQL (not only SQL) document data store
- ExpressJS - web framework for NodeJS
- AngularJS - client Side MVC Framework*
- NodeJS - highly concurrent web server built on Googles V8 engine

*developed by Google :)

MongoDB

- Document Oriented - store data in JSON like documents (actually BSON)
- Dynamic Schemas - flexible insertion of data w/o pre-defined schema
- Highly Available - master/slave replication, slave copies from master and can only be used for reads. Slave can select new master if current goes down.
- Horizontally Scalable - dev chooses a shard key that determines how data in a collection will be distributed. Data is split into ranges and distributed across multiple shards. (A shard is a master with one or more slaves)
- Documents == Rows, Collections == Tables

ExpressJS

- Sinatra inspired light weight MVC framework for NodeJS - less opinionated than Rails
- Routing
- View & style engines - Jade, EJS, LESS
- Configuration

AngularJS

- Client side MVC
- Routes
- Templates
- Directives
- Filters
- Dependency Injection
- Two-way Data Binding

NodeJS

- Server side javascript
- Event driven - single thread event queue and event loop
- Non-blocking I/O - callbacks...everywhere!
- NPM - package manager similar to Rails gems

Why **MEAN**?

- Same language, same objects - spend more time writing code
- Great for hack-a-thons & programming in newly formed groups
- Easy to get project running and iterate through changes (startups)



Lets build!

MEAN stack + Socket.io

- Real-time messaging app in the browser (AngularJS)
- When someone sends a message we will POST it to our API (ExpressJS/NodeJS)
- API will save the message in our local db (MongoDB)
- On database save, we will emit the message to all listening sockets (Socket.io)