

MEANWORKS: MONGODB /MONGOOSE, EXPRESS, ANGULAR AND NODE WORKSHOP WITH ANGULAR FULLSTACK GENERATOR

FULL STACK JAVASCRIPT



**NODE.JS VERSION: 5.1.0
LAST UPDATED: JAN 2016**

MONGODB.
EXPRESS.
ANGULAR. AND
NODE.JS

AGENDA

- > **QUICK OVERVIEW OF MEAN
 - > MONGODB DEMO
 - > EXPRESS BASICS**
- > **ANGULAR AND FULL STACK GENERATOR**
- > **MEANWORKS ADVENTURE DEMO**
- > **WORKSHOP** 

REQUIREMENTS

YOU'LL NEED THESE (INSTALL THEM BEFORE PROCEEDING):

- NODE.JS, NPM AND MONGODB
- GRUNT, YEOMAN, FULL STACK GENERATOR, WEBDRIVER
- CODE EDITOR (SUBLIME TEXT, ATOM, ETC.)- IDES ARE NOT
RECOMMENDED FOR THIS WORKSHOP
- COMMAND LINE APP (TERMINAL, iTERM, ETC.)

REQUIREMENTS

YOU'LL NEED THESE (INSTALL THEM BEFORE PROCEEDING):

- > INTERNET CONNECTION (DUH!)
- > SLIDES & SAMPLE CODE [HTTPS://GITHUB.COM/AZAT-CO/
MEANWORKS](https://github.com/azat-co/meanworks)

PROXY FOR NPM, BOWER, GIT, ETC.

- > NPM: [HTTPS://DOCS.NPMJS.COM/MISC/CONFIG](https://docs.npmjs.com/misc/config)
- > BOWER: [HTTP://BOWER.IO/DOCS/CONFIG/](http://bower.io/docs/config/)
- > GIT: [HTTPS://GIT-SCM.COM/DOCS/GIT-CONFIG](https://git-scm.com/docs/git-config)

AVOID STORING PLAIN PASSWORDS IN THE GIT OR NPM CONFIGS.

SETUP INSTRUCTIONS

DETAILED GENERIC VERSION: [HTTPS://GITHUB.COM/AZAT-CO/
MEANWORKS/BLOB/MASTER/SETUP.PDF](https://github.com/azat-co/meanworks/blob/master/setup.pdf)

... AND IN THE MEANWORKS

REQUIREMENTS

YOU'LL ALSO NEED (WE'LL INSTALL THEM TOGETHER IN MEANWORKS):

- > BOWER
- > GRUNT
- > NODEMON
- > MOCHA

SLIDES AND CODE

- › SLIDES: [HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/BLOB/MASTER/SLIDES](https://github.com/azat-co/meanworks/blob/master/slides)
- › APP: [HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/BLOB/MASTER/APP](https://github.com/azat-co/meanworks/blob/master/app)

DOWNLOADING SLIDES AND CODE

CLONE THE REPOSITORY (RECOMMENDED):

```
$ git clone https://github.com/azat-co/meanworks
```

NAVIGATE TO SLIDES:

```
$ cd meanworks/slides  
$ open README.pdf
```

OR READ IN THE BROWSER:

[HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/MASTER/BLOB/
SLIDES/README.PDF](https://github.com/azat-co/meanworks/master/blob/slides/README.pdf)

AND

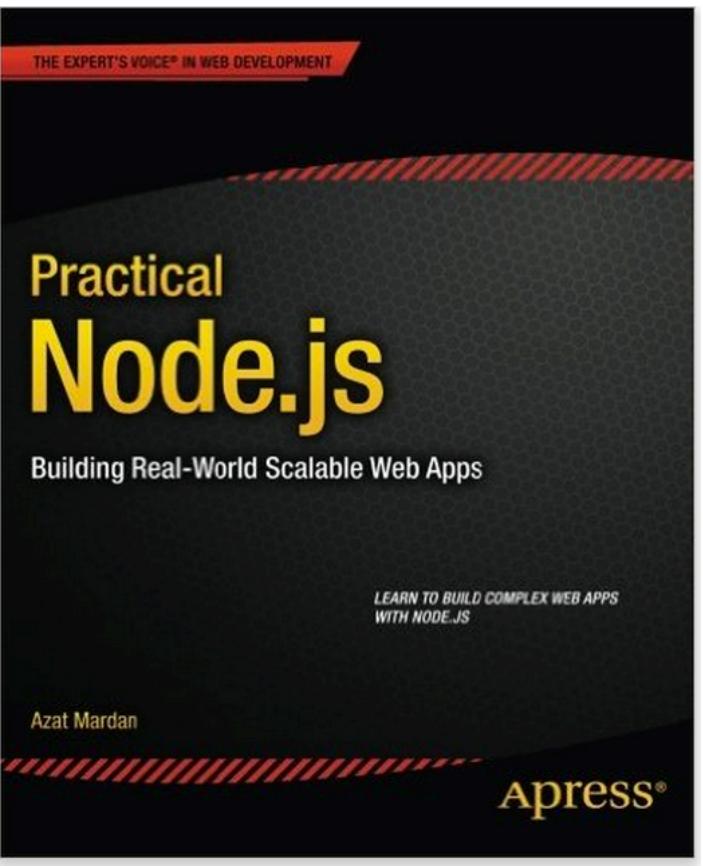
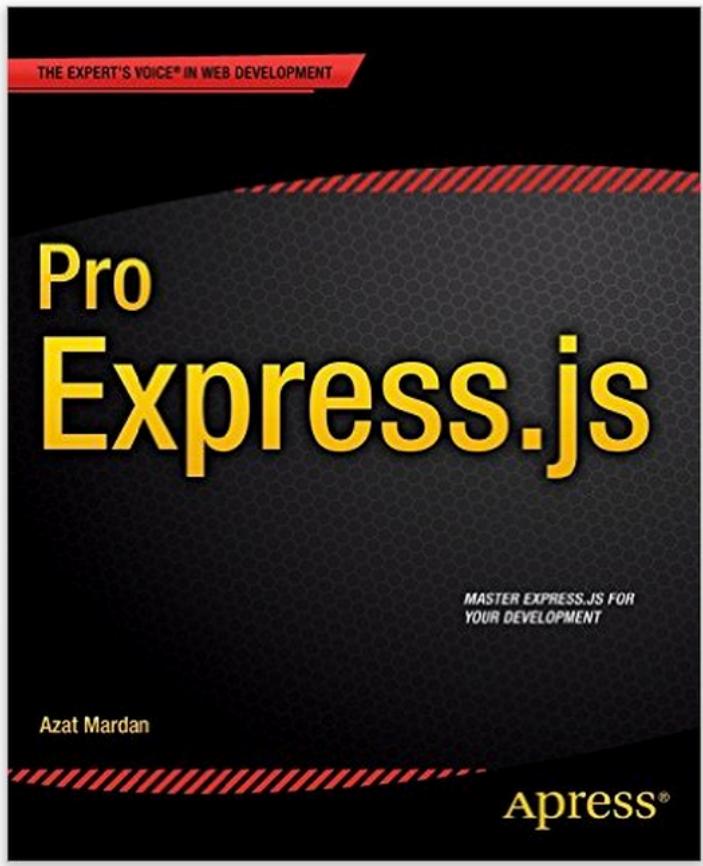
[HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/MASTER/BLOB/
SLIDES/README.MD](https://github.com/azat-co/meanworks/master/blob/slides/README.md)

INTRODUCTIONS

INSTRUCTOR: AZAT MARDAN



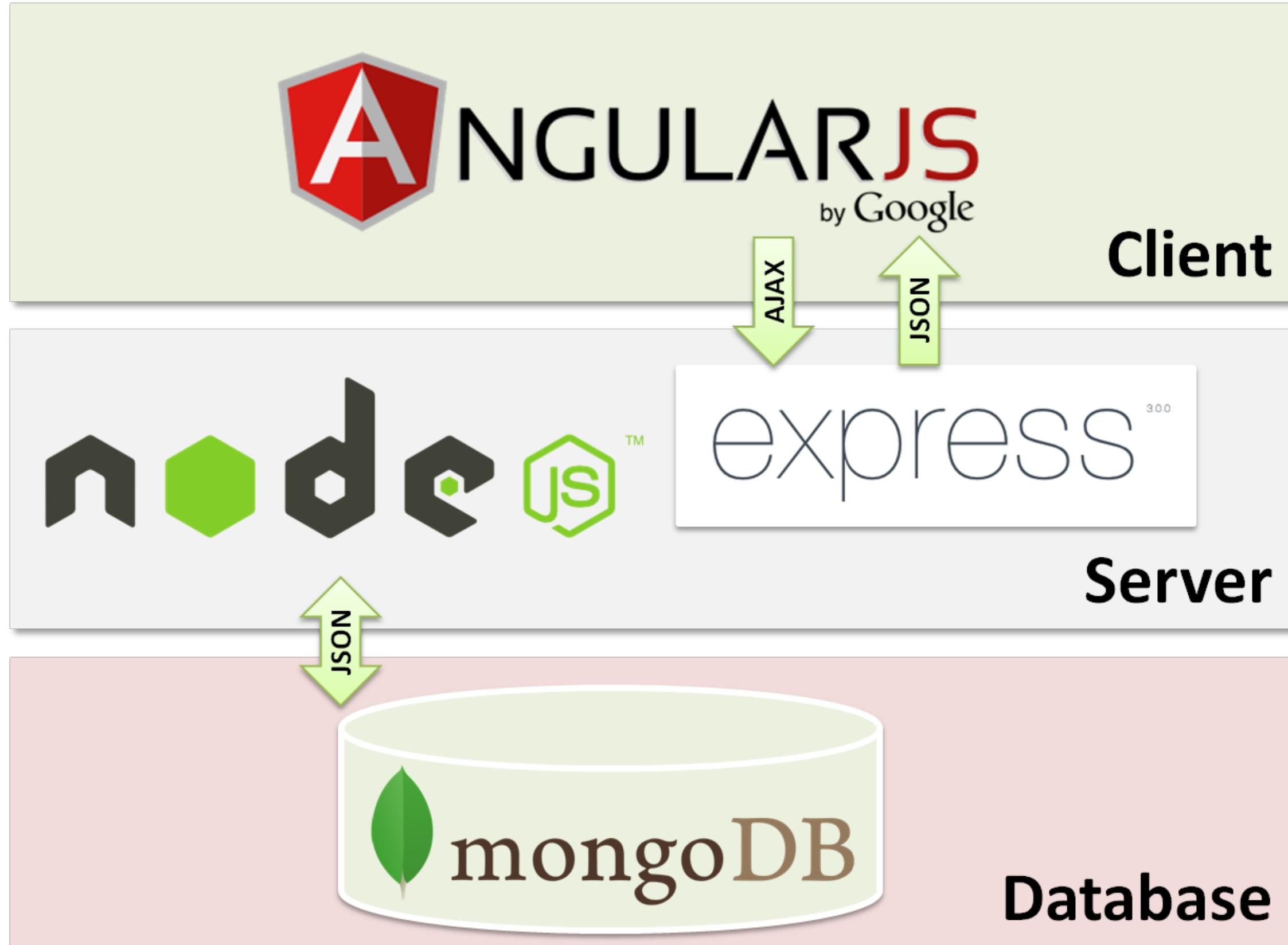
- > **WORK: CAPITAL ONE, STORIFY, FDIC, NIH, DOCUSENSE, AND OTHERS**
- > **BLOG: HTTP://WEBAPPLOG.COM**
- > **BOOKS: REACT QUICKLY, FULL STACK JAVASCRIPT, PRACTICAL NODE.JS, PRO EXPRESS.JS, MONGOOSE COURSE**



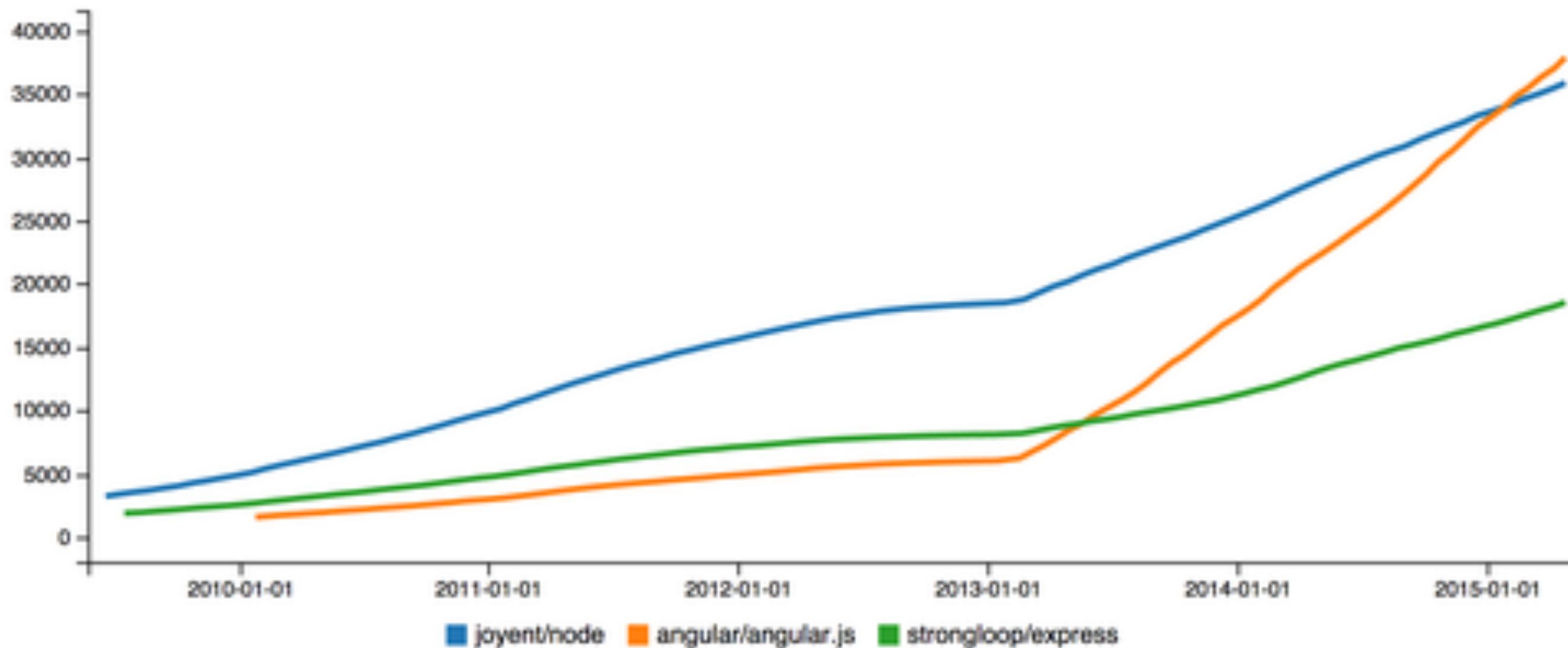
MEET M.E.A.N.!

BENEFITS OF MEAN

- > RAPID PROTOTYPING
- > ONE LANGUAGE TO RULE THEM ALL!
- > VIBRANT COMMUNITY



RATE OF GITHUB STAR GROWTH FOR NODE, EXPRESS AND ANGULAR



EASY PEASY

The Friendly & Fun Javascript Fullstack
for your next web application

MEAN is an opinionated fullstack javascript framework -
which simplifies and accelerates web application development.

Get MEAN by running...

```
$ sudo npm install -g mean-cli  
$ mean init yourNewApp
```

LATEST RELEASE: v0.5.5

LATEST COMMIT: Aug 18, 2015

FORKS: 2170 [FORK MEAN.IO ON GITHUB](#)



MEAN stands for:



MongoDB is the leading NoSQL database, empowering businesses to be more agile and scalable.



Express is a minimal and flexible node.js web application framework, providing a robust set of features for building single and multi-page, and hybrid web applications.



AngularJS lets you extend HTML vocabulary for your application. The resulting environment is extraordinarily expressive, readable,



Node.js is a platform built on Chrome's JavaScript runtime for easily building fast, scalable network applications.

WHAT IS MEAN?

- > MONGODB: NOSQL DATABASE
- > EXPRESS: WEB HTTP SERVER FRAMEWORK FOR REST API
 - > ANGULARJS: FRONT-END FRAMEWORK
- > NODE.JS: NON-BLOCKING I/O TO POWER EXPRESS.JS AND CONNECT TO MONGODB

MONGODB



- > DOCUMENT STORE NOSQL DATABASE
- > REPLICATION & HIGH AVAILABILITY
- > EASY TO SCALE AND RAPID PROTOTYPING
- > SCHEMA-LESS AND NO COMPLEX JOINS
- > JAVASCRIPT INTERFACE

INSTALL MONGODB

FOR ALL OS:

[HTTPS://WWW.MONGODB.ORG/DOWNLOADS](https://www.mongodb.org/downloads)

FOR MAC OS X AND HOMEBREW:

```
$ brew install mongodb@3.0.6
```

LAUNCHING MONGODB

LAUNCH THE mongod SERVICE WITH:

```
$ mongod
```

YOU SHOULD BE ABLE TO SEE INFORMATION IN YOUR TERMINAL.
THE DEFAULT PORT IS 27017.

MONGODB SHELL (MONGO)

FOR THE MONGODB SHELL, OR MONGO, LAUNCH IN A NEW TERMINAL WINDOW (LET THE SERVER RUN). THIS COMMAND:

```
$ mongo
```

MONGODB SHELL (MONGO)

TO TEST THE DATABASE, USE THE JAVASCRIPT-LIKE INTERFACE
AND COMMANDS `SAVE` AND `FIND`:

```
> db.test.save({a:1})  
> db.test.find()
```

MONGODB USES JAVASCRIPT!

MONGODB SHELL (MONGO)

USEFUL MONGODB SHELL COMMANDS:

- > > help
- > > show dbs
- > > use board
- > > show collections
- > > db.messages.remove();

MONGODB SHELL (MONGO)

USEFUL MONGODB SHELL COMMANDS:

```
> > var a=db.messages.findOne();
    > > print json(a);
    > > a.message="hi";
    > > db.messages.save(a);
    > > db.messages.find({});
```

MONGODB SHELL (MONGO)

USEFUL MONGODB SHELL COMMANDS:

- > > db.messages.update({name: "John"}, {\$set: {message: "bye"}});
- > > db.messages.find({name: "John"});
- > > db.messages.remove({name: "John"});

MONGODB SHELL DEMO

DEMO TIME! 

MONGODB VS. MONGODB NATIVE DRIVER

THEY ARE NOT THE SAME! 😞

MONGODB NATIVE DRIVER (MONGODB)

NODE.JS NATIVE DRIVER FOR MONGODB ([HTTPS://GITHUB.COM/CHRISTKV/NODE-MONGODB-NATIVE](https://github.com/ChristKV/node-mongodb-native))

```
$ npm install mongodb --save
```

ESTABLISHING CONNECTION

```
var MongoClient = require('mongodb').MongoClient,
    assert = require('assert');

// Connection URL
var url = 'mongodb://localhost:27017/myproject';
// Use connect method to connect to the Server
MongoClient.connect(url, function(err, db) {
    assert.equal(null, err);
    console.log("Connected correctly to server");

    db.close();
});
```

INSERTING DOCUMENTS

```
collection.insert([
  {a : 1}, {a : 2}, {a : 3}
], function(err, result) {
  console.log("Inserted 3 documents into the document collection");
  callback(result);
});
```

UPDATING DOCUMENTS

```
collection.update({ a : 2 }
  , { $set: { b : 1 } }, function(err, result) {
    console.log("Updated the document with the field a equal to 2");
    callback(result);
});
```

REMOVING DOCUMENTS

```
// Insert some documents
collection.remove({ a : 3 }, function(err, result) {
  console.log("Removed the document with the field a equal to 3");
  callback(result);
});
```

FETCHING DOCUMENTS

```
collection.find({}).toArray(function(err, docs) {  
  console.log("Found the following records");  
  console.dir(docs);  
  callback(docs);  
});
```

MONGODB AND MONGOOSE CHEATSHEET

[HTTPS://GITHUB.COM/AZAT-CO/CHEATSHEETS/TREE/MASTER/MONGODB-MONGOOSE](https://github.com/azat-co/cheatsheets/tree/master/mongodb-mongoose)

ANGULARJS



ANGULARJS

- SUPPORTED BY GOOGLE
- RAPID PROTOTYPING (TWO-WAY BINDING)
- FEATURE RICH, I.E., DOES A LOT OF THINGS FOR DEVELOPERS
 - DE-EMPHASIZES EXPLICIT DOM MANIPULATION
 - SEPARATES PRESENTATION, DATA, AND LOGIC COMPONENTS

TWO-WAY BINDING

MODELS->VIEWS
VIEWS->MODELS

NO DOM MANIPULATIONS.

NO JQUERY.

NO `$('.bnt').click(fn)`.



ANGULAR STRUCTURE

- > ROUTE FILE
- > TEMPLATES
- > CONTROLLERS

ROUTE

```
angular.module('ngFullstackNewApp')
.config(function($stateProvider) {
  $stateProvider
    .state('main', {
      url: '/',
      templateUrl: 'app/main/main.html',
      controller: 'MainController',
      controllerAs: 'main'
    });
});
```

TEMPLATE

```
<navbar></navbar>

<header class="hero-unit" id="banner">
  <div class="container">
    <h1>'Allo, 'Allo!</h1>
    <p class="lead">Kick-start your next web app with Angular Fullstack</p>
    
  </div>
</header>

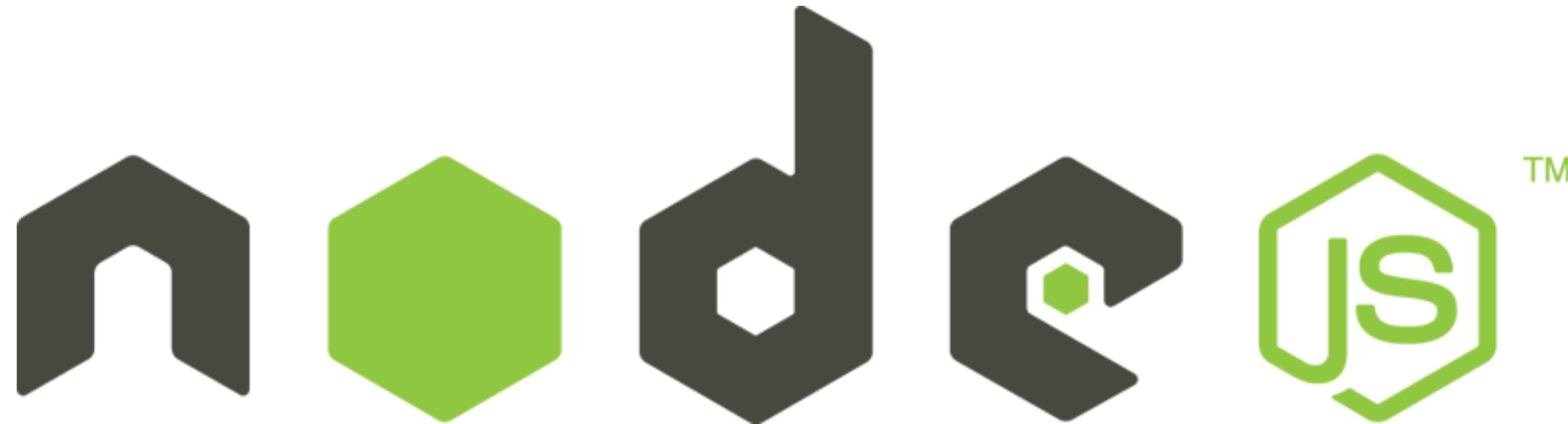
<div class="container">
  <div class="row">
    <div class="col-lg-12">
      <h1 class="page-header">Features:</h1>
      <ul class="nav nav-tabs nav-stacked col-md-4 col-lg-4 col-sm-6" ng-repeat="thing in main.awesomeThings">
        <li><a href="#" tooltip="{{thing.info}}">{{thing.name}}</a></li>
      </ul>
    </div>
  </div>
</div>

<footer></footer>
```

CONTROLLER

```
(function() {  
  
  class MainController {  
  
    constructor($http) {  
      this.$http = $http;  
      this.awesomeThings = [];  
  
      $http.get('/api/things').then(response => {  
        this.awesomeThings = response.data;  
      });  
    }  
  
    addThing() {  
      if (this.newThing) {  
        this.$http.post('/api/things', { name: this.newThing });  
        this.newThing = '';  
      }  
    }  
  
    deleteThing(thing) {  
      this.$http.delete('/api/things/' + thing._id);  
    }  
  }  
  
  angular.module('ngFullstackNewApp')  
    .controller('MainController', MainController);  
  
}());
```

NODE.JS



NODE.JS

- > SCALABLE, FAST WEB PLATFORM
- > MATURE (V5.3 AS OF JAN '16) AND SUPPORTS A LOT OF ES6 FEATURES
- > ALLOWS FOR FRONT-END CODE RE-USE ON THE SERVER: Lodash, underscore and vice versa

ADVANTAGES OF NODE.JS

- > NON-BLOCKING I/O
- > SUPER FAST (V8)
- > VIBRANT ECOSYSTEM (NPM)
- > ABILITY TO RE-USE CODE ON BROWSER AND SERVER
- > ABILITY TO USE FRONT-END DEVS FOR BACK-END AND VICE VERSA

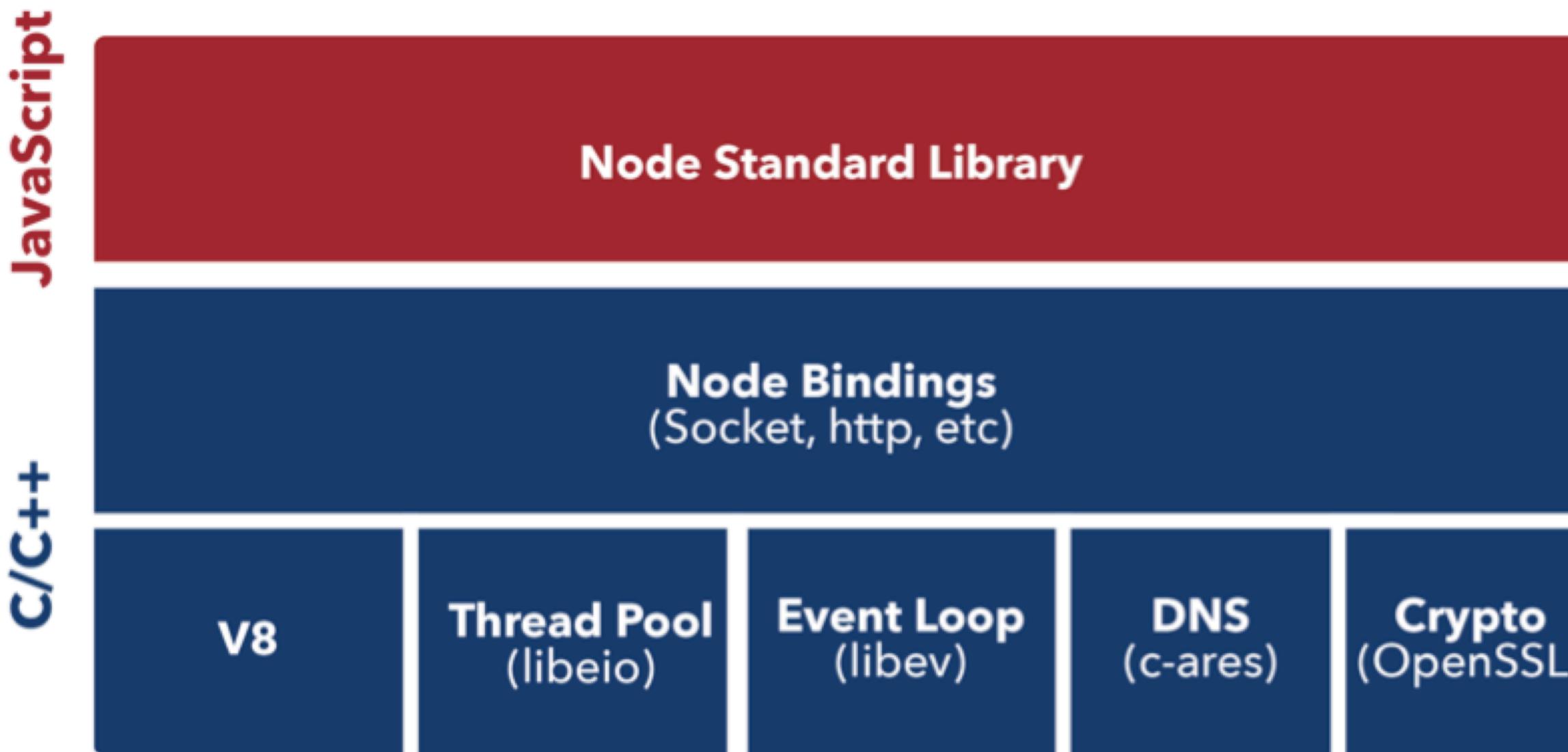
NODE CORE: V8, LIBEV, AND LIBEIO

- > **LIBEV: THE EVENT LOOP**
- > **LIBEIO: ASYNC I/O**
- > **LIBUV: ABSTRACTION ON LIBEIO, LIBEV, C-ARES (FOR DNS) & IOCP (FOR WINDOWS)**



TECH

BIRD'S EYE VIEW OF NODE



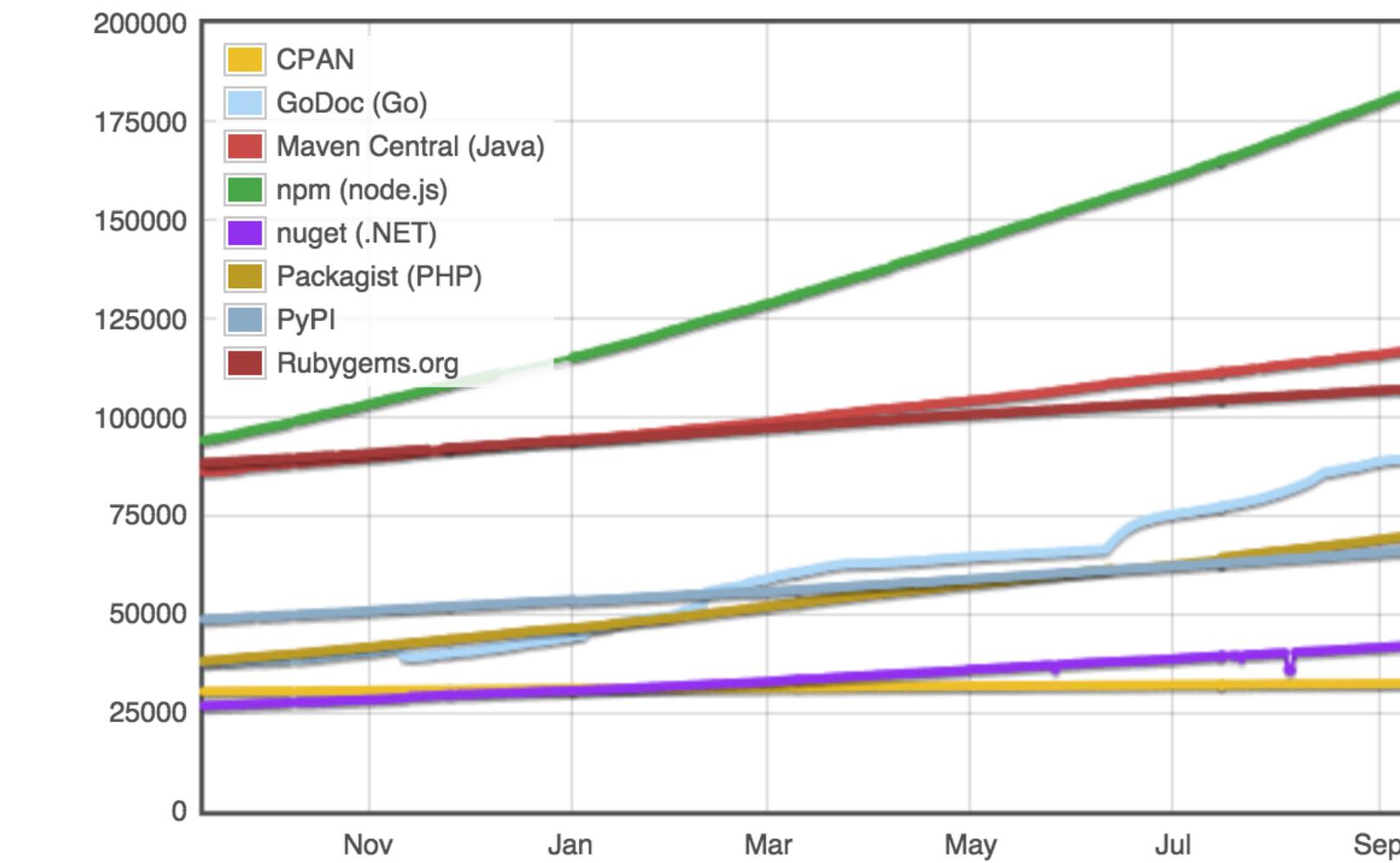
NODE STACK

- > CORE MODULES: HTTP, FS, NET, UTILS, QUERY
- > WEB FRAMEWORKS: EXPRESS, HAPI, LOOPBACK, SAILS
- > DATABASE DRIVERS: MONGODB, POSTGRESQL, MYSQL...
- > TESTING: MOCHA, SUPERTEST AND EXPECT
- > DEPENDENCY MANAGEMENT: BOWER AND NPM
- > BUILDING: WEBPACK, GRUNT OR GULP

NODE STACK II

- > AUTHENTICATION: PASSPORT
 - > CODE GENERATION: YO
- > PROCESS MANAGERS: PM2, STRONG-CLUSTER-CONTROL, FOREVER

NPM RULES



NODE CONSOLE DEMO

LET'S PLAY WITH NODE!



EXPRESS.JS

express

ADVANTAGES OF EXPRESS.JS

- > EASY TO LEARN (CONFIGURATION OVER CONVENTION)
 - > MYRIADS OF MODULES
 - > MATURE AND THE MOST POPULAR (V4.X)

CONFIGURING EXPRESS

THE EXPRESS SERVER NEEDS TO BE CONFIGURED BEFORE IT CAN
START

MANAGE CONFIGURATION VIA THE `set` METHOD:

```
var app = express();
app.set('port', process.env.PORT || 3000);
app.set('views', 'views'); // the directory the templates are stored in
app.set('view engine', 'jade');
```

CONNECT FRAMEWORK

EXPRESS LEVERAGES THE CONNECT FRAMEWORK TO PROVIDE
MIDDLEWARE
FUNCTIONALITY.

MIDDLEWARE ARE USED TO MANAGE HOW A REQUEST SHOULD BE
HANDLED.

[HTTP://SENCHALABS.GITHUB.COM/CONNECT](http://senchalabs.github.com/connect)

NODE.JS MIDDLEWARE PATTERN

MIDDLEWARE PATTERN IS A SERIES OF PROCESSING UNITS CONNECTED TOGETHER, WHERE THE OUTPUT OF ONE UNIT IS THE INPUT FOR THE NEXT ONE. IN NODE.JS. THIS OFTEN MEANS A SERIES OF FUNCTIONS IN THE FORM:

```
function(args, next) {  
    next(output) // error or real output  
}
```

MIDDLEWARE ORDER

MIDDLEWARE ARE EXECUTED IN THE ORDER SPECIFIED:

```
app.use(express.logger('dev'));
app.use(express.basicAuth('test', 'pass'));
app.use(express.json());
```

CREATING MIDDLEWARE

CUSTOM MIDDLEWARE IS EASY TO CREATE:

```
app.use(function (req, res, next) {  
  // modify req or res  
  // execute the callback when done  
  next();  
});
```

MOST POPULAR AND USEFUL CONNECT / EXPRESS MIDDLEWARE

\$ sudo npm install <package_name> --save

- > **BODY-PARSER** REQUEST PAYLOAD
- > **COMPRESSION** GZIP
- > **CONNECT-TIMEOUT** SET REQUEST TIMEOUT
- > **COOKIE-PARSER** COOKIES
- > **COOKIE-SESSION** SESSION VIA COOKIES STORE

CONNECT/EXPRESS MIDDLEWARE

- > CSURF CSRF
- > ERRORHANDLER ERROR HANDLER
- > EXPRESS-SESSION SESSION VIA IN-MEMORY OR OTHER STORE
- > METHOD-OVERRIDE HTTP METHOD OVERRIDE
 - > MORGAN SERVER LOGS
 - > RESPONSE-TIME: RESPONSE TIME

EXPRESS.JS CHEATSHEET

[HTTPS://GITHUB.COM/AZAT-CO/CHEATSHEETS/BLOB/MASTER/
EXPRESS4/INDEX.MD](https://github.com/azat-co/cheatsheets/blob/master/express4/index.md)

GENERAL MEAN GENERATORS

- > [HTTP://MEANJS.ORG/](http://meanjs.org/)
- > [HTTP://MEAN.IO/#!/](http://mean.io/#/)
- > [HTTPS://GITHUB.COM/DAFTMONK/GENERATOR-ANGULAR-FULLSTACK](https://github.com/daftmonk/generator-angular-fullstack)

ANGULAR FULL STACK GENERATOR

YEOMAN GENERATOR FOR ANGULARJS WITH AN EXPRESS SERVER

[HTTPS://GITHUB.COM/ANGULAR-FULLSTACK/GENERATOR-
ANGULAR-FULLSTACK](https://github.com/angular-fullstack/generator-angular-fullstack)



GENERATOR COMPONENTS

- > MONGODB (MONGOOSE) OR SQL DATABASES (SEQUELIZE)
 - > EXPRESS
- > AUTH (GOOGLE, FACEBOOK, ETC.)
 - > SOCKET.IO
- > JASMINE OR MOCHA TESTS
- > TWITTER BOOTSTRAP UI

GENERATOR USAGE

```
$ npm install -g yo grunt-cli bower generator-angular-fullstack  
$ mkdir my-new-project && cd $_  
$ yo angular-fullstack [app-name]  
  
$ grunt test  
$ grunt serve
```

Client

? What would you like to write markup with? (Use arrow keys)

› HTML

Jade

? What would you like to write stylesheets with?

› CSS

Sass

Stylus

Less

- ? What Angular router would you like to use? (Use arrow keys)
 - ngRoute
 - › uiRouter

? Would you like to include Bootstrap? (Y/n) Y

? Would you like to include UI Bootstrap? (Y/n) Y

```
# Server
```

? What would you like to use for data modeling? (Press <space> to select)

- >● Mongoose (MongoDB)
- Sequelize (MySQL, SQLite, MariaDB, PostgreSQL)

? Would you scaffold out an authentication boilerplate? (Y/n) n

? Would you like to use socket.io? (Y/n) n

Project

- ? What would you like to write tests with? (Use arrow keys)
 - Jasmine
 - > Mocha + Chai + Sinon

- ? What would you like to write Chai assertions with? (Use arrow keys)
- Expect
- Should

2. yo angular-fullstack (node)

mongod (mongod) | grunt (node) | ..ode/meanworks (zsh) | yo (node)

```
Code $ mkdir test-mean
Code $ yo angular-fullstack

  _.-_
  | |
  |--(o)--|
  \_-'_/
  /__A__\
  | ~ |
  '-'_.-'_
  ' . Y '.

  Welcome to Yeoman,
  ladies and gentlemen!
```

Out of the box I create an AngularJS app with an Express server.

```
# Client

? What would you like to write markup with? HTML
? What would you like to write stylesheets with? CSS
? What Angular router would you like to use? uiRouter
? Would you like to include Bootstrap? Yes
? Would you like to include UI Bootstrap? Yes

# Server

? What would you like to use for data modeling? Mongoose (MongoDB)
? Would you scaffold out an authentication boilerplate? No
? Would you like to use socket.io? No

# Project

? What would you like to write tests with? Mocha + Chai + Sinon
? What would you like to write Chai assertions with? (Use arrow keys)
> Expect
Should
```

```
create bower.json
create package.json
create .gitignore
create .bowerrc
create .buildignore
create .editorconfig
create .gitattributes
create .jscsrc
create .travis.yml
```

```
create client/.htaccess
create client/.jshintrc
create client/app/app.js
create client/app/app.css
create client/app/main/main.controller.js
create client/app/main/main.controller.spec.js
create client/app/main/main.js
create client/app/main/main.css
create client/app/main/main.html
create client/assets/images/yeoman.png
```

```
create client/components/footer/footer.directive.js
create client/components/footer/footer.css
create client/components/footer/footer.html
create client/components/modal/modal.service.js
create client/components/modal/modal.css
create client/components/modal/modal.html
create client/components/navbar/navbar.controller.js
create client/components/navbar/navbar.directive.js
create client/components/navbar/navbar.html
create client/components/ui-router/ui-router.mock.js
create client/components/util/util.module.js
create client/components/util/util.service.js
create client/favicon.ico
create client/index.html
create client/robots.txt
```

```
create e2e/components/navbar/navbar.po.js
create e2e/main/main.po.js
create e2e/main/main.spec.js
create Gruntfile.js
create karma.conf.js
create mocha.conf.js
create protractor.conf.js
create README.md
```

```
create server/.jshintrc
create server/.jshintrc-spec
create server/app.js
create server/components/errors/index.js
create server/config/local.env.js
create server/config/local.env.sample.js
create server/config/environment/development.js
create server/config/environment/index.js
create server/config/environment/production.js
create server/config/environment/shared.js
create server/config/environment/test.js
create server/config/express.js
create server/config/seed.js
create server/index.js
create server/routes.js
create server/views/404.html
create server/api/thing/thing.controller.js
create server/api/thing/thing.events.js
create server/api/thing/thing.integration.js
create server/api/thing/thing.model.js
create server/api/thing/index.js
create server/api/thing/index.spec.js
```

GENERATOR HELP

WHEN IN DOUBT:

```
$ yo angular-fullstack --help
```

GENERATOR COMMANDS

SERVER SIDE:

angular-fullstack:endpoint

CLIENT SIDE:

angular-fullstack:route

angular-fullstack:controller

angular-fullstack:filter

GENERATOR COMMANDS II

CLIENT SIDE:

angular-fullstack:directive
angular-fullstack:service
angular-fullstack:provider
angular-fullstack:factory
angular-fullstack:decorator

DEPLOYMENT:

angular-fullstack:openshift
angular-fullstack:heroku

WORKSHOP!

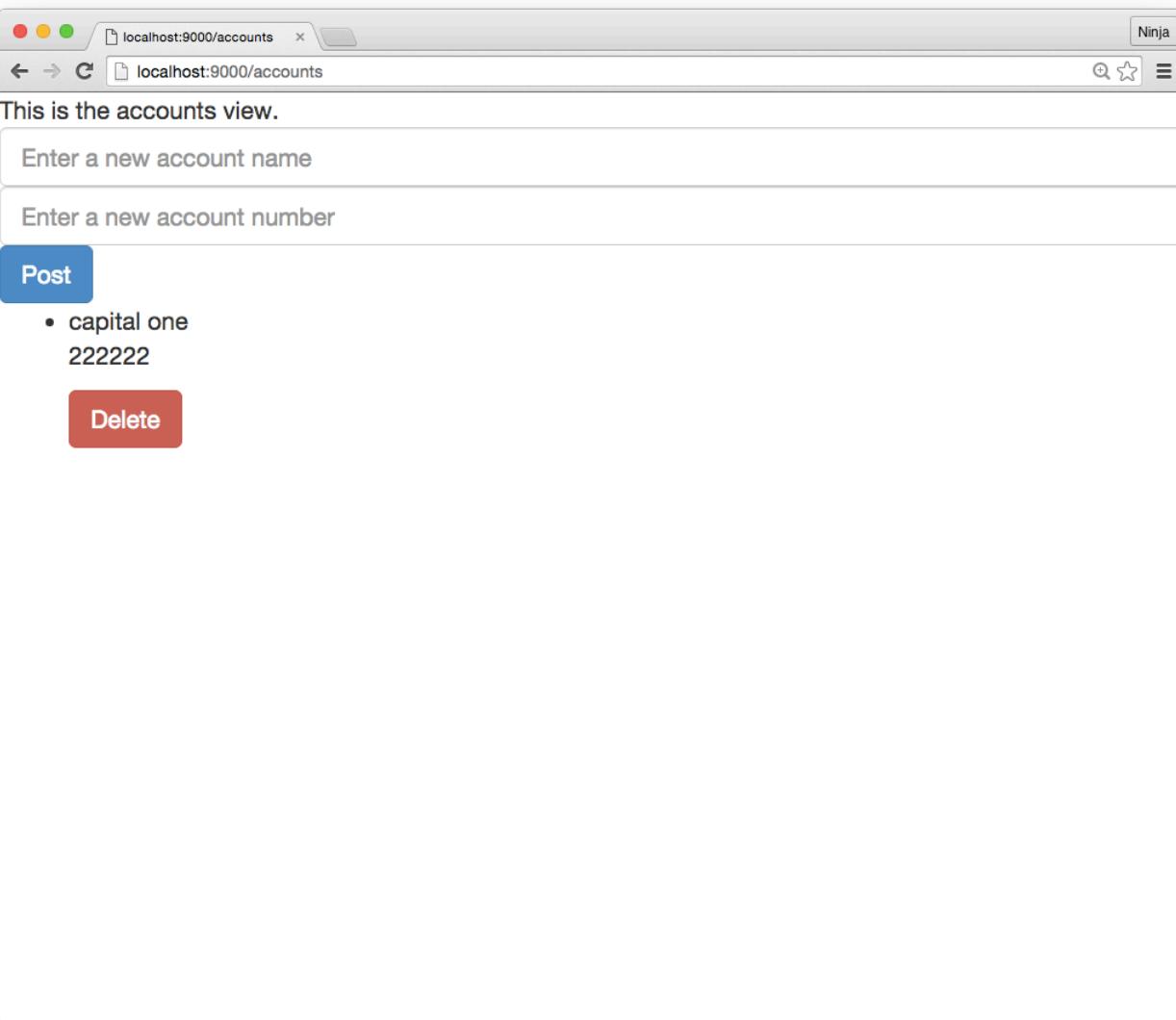


PROJECT

USE MEANWORKS TO VERIFY VERSIONS AND BUILD THE PROJECT APP:

1. BUILD REST API
2. BUILD ANGULAR APP WITH FULL STACK GENERATOR
3. CREATE CRUD FOR ACCOUNTS

THE APP



APP DEMO

IT'S DEMO TIME!



APP: [HTTPS://GITHUB.COM/AZAT-CO/TREE/MASTER/APP](https://github.com/azat-co/tree/master/app)

RUNNING THE APP, I.E., OFFICIAL SOLUTION TO MEANWORKS
(OPTIONAL, BECAUSE YOU'LL BE BUILDING YOUR OWN):

[HTTPS://GITHUB.COM/AZAT-CO/TREE/MASTER/APP/
README.MD](https://github.com/azat-co/tree/master/app/README.md)

BOILERPLATE

```
$ mkdir app  
$ yo angular-fullstack ng-fullstack-new  
$ grunt test  
$ grunt serve
```

HTTP://LOCALHOST:9000/

PROJECT STRUCTURE

```
/node_modules  
/e2e  
/server  
/client  
index.js  
package.json  
npm-shrinkwrap.json  
readme.md  
test.js  
transactions.json  
accounts.json
```

LOCAL SETUP

CREATE A NEW FOLDER:

```
$ mkdir mean
```

TEST IF YOU HAVE NODE.JS. MONGODB. NPM AND GIT:

```
$ node -v
```

```
$ npm -v
```

```
$ mongod --version
```

```
$ git --version
```

INSTALLATION

```
$ npm install -g yo grunt-cli generator-angular-fullstack
```

PROJECT INIT

```
$ cd mean  
$ yo angular-fullstack
```

ENDPOINTS AND ROUTES

```
$ yo angular-fullstack:endpoint account  
$ yo angular-fullstack:route accounts  
$ yo angular-fullstack:endpoint transaction  
$ yo angular-fullstack:route transactions
```

(ANSWER GENERATOR QUESTIONS)

TEST FIRST

```
$ grunt test
```

EXPRESS APP

```
var express = require('express'),  
bodyParser = require('body-parser'),  
errorHandler = require('errorhandler'),  
app = express(),  
mongo = require('mongodb'),  
cors = require('cors')  
  
app.use(cors({  
  origin: 'http://localhost:8080'  
}))  
app.use(bodyParser.json())  
app.use(express.static('public'))  
...
```

MONGODB CONNECTION

```
...  
var url = 'mongodb://localhost:27017/ngfullstacknew-dev';  
  
mongo.connect(url, function(err, db) {  
  if (err) {  
    console.error(err)  
    return process.exit(1)  
  }  
  var transactionsCollection = db.collection('transactions')  
  ...
```

GET /api/transaction

```
...
  app.get('/api/transactions', function(req, res, next){
    transactionsCollection.find({}, {sort: {_id:-1}}).toArray(function(error, transactions){
      if (error) return next(error)
      console.log(transactions)
      return res.send(transactions)
    })
  })
})
...
...
```

STARTUP

```
...  
app.use(errorHandler())
```

```
app.listen(3000)
```

```
...
```

STARTING THE SERVER

IN TERMINAL:

```
$ node ./node_modules/nodemon/bin/nodemon.js index.js
```

SEEDING THE DATABASE

USE THIS COMMAND IN TERMINAL TO POPULATE THE
transactions COLLECTION IN THE DATABASE
ngfullstacknew-dev WITH TRANSACTIONS:

```
$ mongoimport --host=127.0.0.1 --port=27017 --db ngfullstacknew-dev --collection transactions --file transactions.json --jsonArray  
$ mongoimport --host=127.0.0.1 --port=27017 --db ngfullstacknew-dev --collection accounts --file accounts.json --jsonArray
```

DATA JSON

TRANSACTION.JSON: [HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/BLOB/MASTER/APP/TRANSACTIONS.JSON](https://github.com/azat-co/meanworks/blob/master/app/transactions.json)
ACCOUNTS.JSON: [HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/BLOB/MASTER/APP/ACCOUNTS.JSON](https://github.com/azat-co/meanworks/blob/master/app/accounts.json)

CHECKING SEED DATA

CHECK THE DATA IN THE MONGO SHELL:

```
> use ngfullstacknew-dev  
> db.transactions.find({})
```

RUNNING APP

OPEN THIS URL IN CHROME, FIREFOX OR SAFARI:

HTTP://LOCALHOST:9000/ACCOUNTS

ROUTE

```
angular.module('ngFullstackNewApp')
.config(function ($stateProvider) {
$stateProvider
.state('accounts', {
url: '/accounts',
templateUrl: 'app/accounts/accounts.html',
controller: 'AccountsCtrl'
});
});
```

CONTROLLER

```
angular.module('ngFullstackNewApp')
.controller('AccountsCtrl', function ($scope, $http) {
  $scope.accounts = [];

  $http.get('/api/accounts').success(function(accounts) {
    $scope.accounts = accounts;
  });
});
```

DIRECTIVES

NG-REPEAT

```
<ul class="account-list">
  <li ng-repeat="account in accounts">
    <span>{{ account.name }}</span>
    <span>{{ account.number }}</span>
  </li>
</ul>
```

NG-IF

```
<a class="btn btn-info" href="#" ng-click="disputeTransaction(transaction)" ng-if="transaction.dispute==false">
  <i class="glyphicon glyphicon-question-sign"></i>
  Dispute
</a>
```

NG-HIDE

```
<i ng-hide="transaction.date != 'pending'" class="glyphicon glyphicon-refresh">?</i>
```

NG-CLICK

```
<a class="btn btn-danger" href="#" ng-click="removeAccount(account)">
  <i class="glyphicon-remove-circle glyphicon"></i> Delete
</a>
```

ICON STYLES

[HTTP://GLYPHICONS.COM](http://GLYPHICONS.COM)

QUESTIONS



?



ADVENTURE TIME!



MEANWORKS

01-node-npm

[COMPLETED]

02-mongodb

[COMPLETED]

03-installs

[COMPLETED]

04-folder

[COMPLETED]

05-seed

[COMPLETED]

06-endpoints

[COMPLETED]

07-ui-transactions

[COMPLETED]

08-ui-accounts

[COMPLETED]

09-ui-main

[COMPLETED]

HELP

EXIT

INSTALLATION

```
$ git clone https://github.com/azat-co/meanworks.git  
$ cd meanworks  
$ npm install  
$ npm link
```

FOR WINDOWS: YOU'LL NEED PYTHON FROM .NET PACKAGE.

MEANWORKS USAGE

- > \$ meanworks OR node meanworks.js: LAUNCH MENU TO SELECT THE ADVENTURE AND MONITOR PROGRESS
 - > \$ meanworks verify: VERIFY SOLUTION
- > \$ meanworks verify YOUR_FILE_NAME: TO VERIFY THAT YOU HAVE FINISHED AN EXERCISE WITH A FILENAME
- > \$ meanworks help: TO GET HELP WITH THE WORKSHOP

MEANWORKS USAGE

- › \$ meanworks solution: TO SHOW THE SOLUTION FOR THE CURRENT EXERCISE
- › \$ meanworks verify skip TO SKIP IT.

MEANWORKS ADVENTURES

- > 01-NODE-NPM
- > 02-MONGODB
- > 03-INSTALLS
- > 04-FOLDER
- > 05-SEED

MEANWORKS ADVENTURES

- > 06-ENDPOINTS
- > 07-UI-TRANSACTIONS
- > 08-UI-ACCOUNTS
- > 09-UI-MAIN

MEANWORKS DEMO

IT'S DEMO TIME!



FIRST ADVENTURE: INSTALL COMPATIBLE VERSION OF NODE.JS
(5.1.0).

EXERCISE

IT'S TIME TO BUILD THE APP BY SOLVING ADVENTURES!

1. RUN \$ node meanworks IN YOUR TERMINAL.
2. SOLVE ADVENTURES ONE-BY-ONE STARTING FROM THE TOP.
3. HAVE FUN.

USE COMMAND TO RUN. VERIFY OR LOOK THE OFFICIAL SOLUTION.

FEEDBACK

BUGS? SEND THEM TO ME. I 😊 THEM FOR BREAKFAST!



[HTTPS://GITHUB.COM/AZAT-CO/MEANWORKS/
ISSUES](https://github.com/azat-co/meanworks/issues)

YOU ARE ⭐!

WORKSHOP TIME



```
$ node meanworks
```