

# Developing **MEAN** applications

KIEVJS MEETUP 2013



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HERE YOU CAN FIND ME..

..TWEETING:

[@voronianski](https://twitter.com/voronianski)

..BLOGGING:

<http://pixelhunter.me>

..OR CODING:

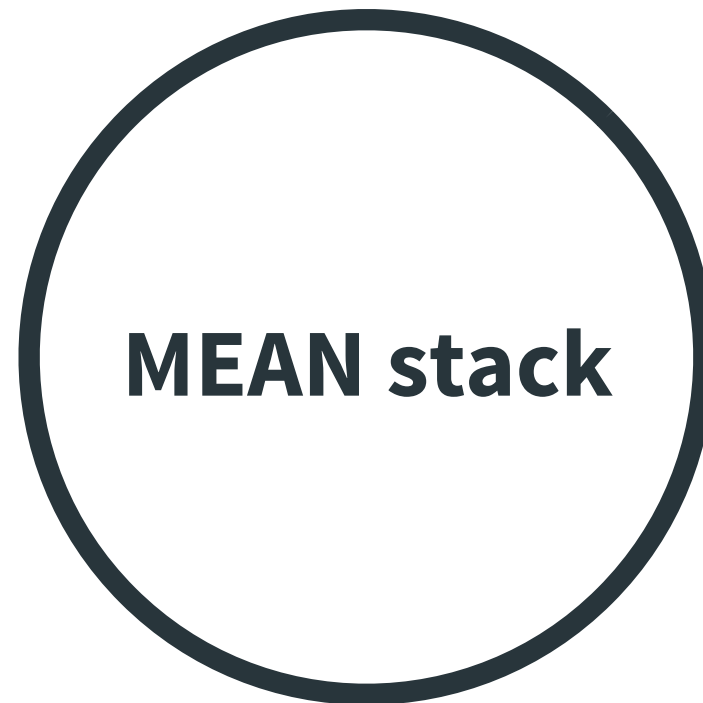
<http://github.com/voronianski>

**HMM.. SO WHAT IS MEAN?!**





express



# MONGODB

<http://mongodb.org>

OPEN-SOURCED, LEADING NOSQL DATABASE

# EXPRESS.JS

<http://expressjs.com>

WEB APPLICATION FRAMEWORK FOR NODE.JS  
(10,884 GITHUB STARS)

# ANGULAR.JS

<http://angularjs.org>

CLIENT-SIDE WEB APPLICATION FRAMEWORK BY GOOGLE  
(15,263 GITHUB STARS)

# NODE.JS

<http://nodejs.org>

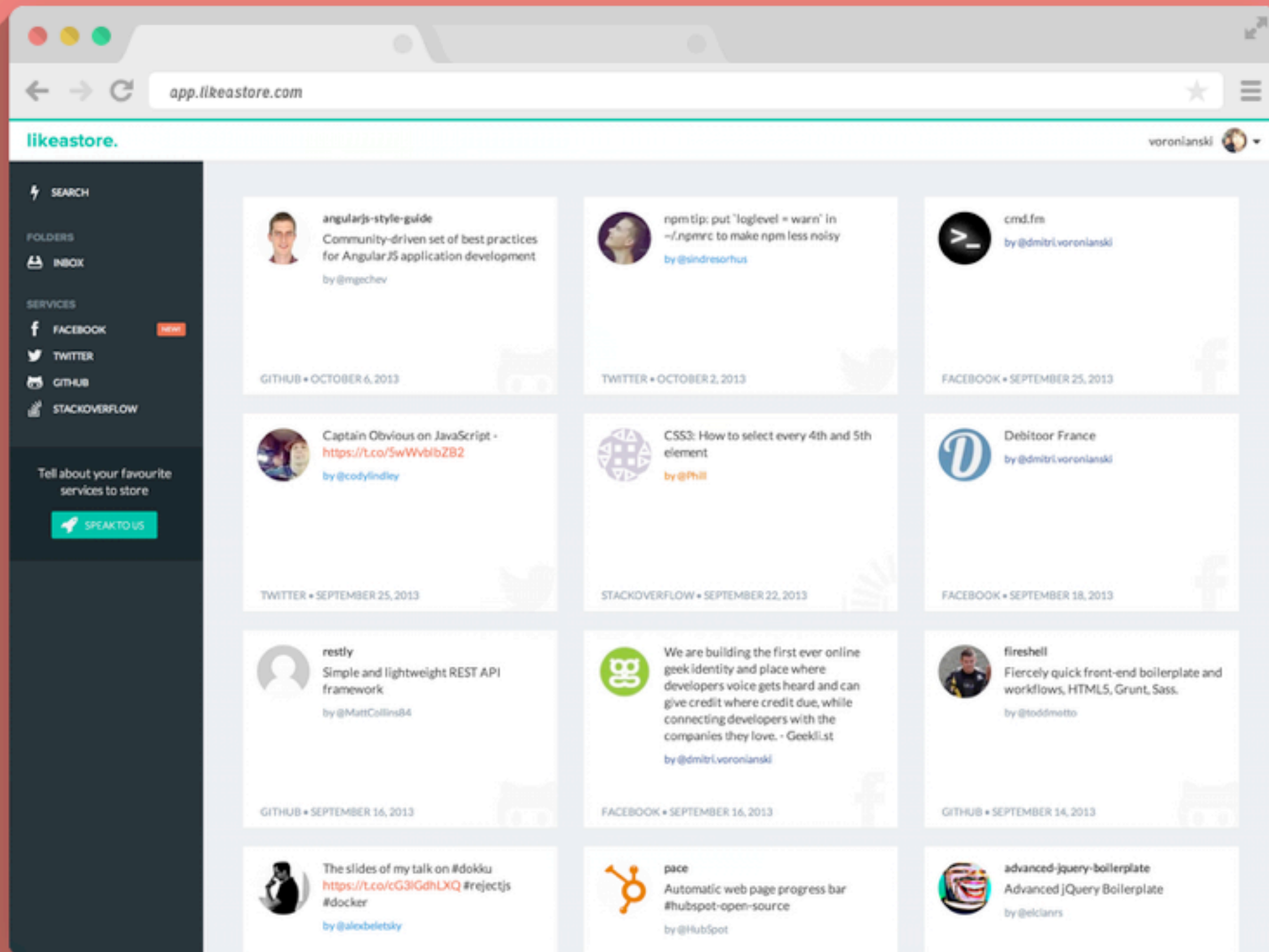
SOFTWARE PLATFORM BUILT ON V8 JAVASCRIPT ENGINE  
(25,119 GITHUB STARS)

**IT'S ALL ABOUT  
POPULAR FRAMEWORKS  
AND TECHNOLOGIES  
SPEAKING ONE LANGUAGE:**

**JAVASCRIPT**



# likeastore.com



«EASY WAY TO STORE YOUR LIKES IN A SAFE PLACE..»



# REST API



# MONGOJS:

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- WRAPS NATIVE MONGODB NODE.JS DRIVER
- EMULATES MONGO SHELL SYNTAX
- SMALL AND FAST

<http://npmjs.org/package/mongojs>

```
var mongo = require('mongojs');
var db = mongo.connect(connection, collections);

db.collection.find({}, function (err, docs) {
  // do smth with docs
  ...
});
```

# JSON-SCHEMA:

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- **DEFINING DOCUMENT LOOK**
- **EASY AND FLEXIBLE DATA VALIDATION**
- **JSON SCHEMA SPEC - <http://json-schema.org/>**

<https://npmjs.org/package/json-schema>

```
var schema = require('json-schema');
var result = schema.validate(jsonInput, modelSchema);

if (!result.valid) {
  return callback(result.errors);
}
```

## ROUTES & MIDDLEWARES:

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- SERVE MASTER HTML ONCE
- BASIC AUTH MIDDLEWARE ON `/api` ROUTES
- LET CLIENT DO COOL STUFF BY SERVING JSON TO IT

```
app.get('/api/items/:type', getItemsByType);
...
function getItemsByType (req, res, next) {
  item.getItemsByType(req.params.type, function (err, items) {
    if (err) {
      return next(err);
    }
    res.json(items);
  });
}
```

# WEB CLIENT



# ANGULAR.JS IS AWESOME





**NO BOILERPLATE CODE**

**TWO-WAY DATA BINDING**

**DIRECTIVES**

**NO DEPENDENCIES**

**SIMPLE TEMPLATES**

...

# START WITH master.html

..OR .ejs

..OR .jade

..OR WHATEVER

```
<!doctype html>
<html>
<head>
  <meta charset="utf-8">
  <title><%= title %></title>
  <link rel="stylesheet" type="text/css" href="<%= mainCss %>">
</head>
<body>
  <header ng-include src="'partials/header'"></header>
  <div class="main" ng-view></div>
  <script src="/components/require.js" data-main="<%= mainJs %>"></script>
</body>
</html>
```

# PROCEED WITH ROUTES..

## THROUGH SIMPLE CLIENT-SIDE HTML5 PUSHSTATE ROUTING

```
app.config(['$routeProvider', '$locationProvider',  
  function ($routeProvider, $locationProvider) {  
    $routeProvider  
      .when('/', {  
        templateUrl: 'partials/dashboard',  
        controller: 'dashboardCtrl'  
      })  
      .when('/settings', {  
        templateUrl: 'partials/settings',  
        controller: 'settingsCtrl'  
      })  
      .otherwise({ redirectTo: '/' });  
  
    $locationProvider.html5Mode(true);  
  }  
]);
```

# ..AND RESOURCES

USE API SERVICE WITH `ngResource` TO GET DATA FROM SERVER

```
// api service
Services.factory('api', ['$resource', function ($resource) {
  return $resource('/api/:resource/:target', {});
}]);

...

// in controller
Controllers.controller('dashboardCtrl', ['$scope', 'api', function ($scope, api) {
  $scope.items = api.query({ resource: 'items', target: 'all' });
  ...
}]);
```

**HAVE FUN WITH  
MORE FEATURES..**



## 2-WAY DATA BINDING AND TEMPLATES:

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- PERMANENTLY BINDS VIEW AND MODEL
- NO REFRESH CYCLES AND HARD TO MAINTAIN RENDER CODE
- REAL HTML TEMPLATES

```
<div ng-app>
  <label>Name:</label>
  <input type="text" ng-model="name" placeholder="Enter name">
  <h1>Hello {{name}}</h1>
</div>
```

# SCOPES, MODELS AND WATCHERS:

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- **MODEL AS A PLAIN JAVASCRIPT OBJECT (NO `Model.extend()`, ETC.)**
- **SCOPE IS AN OBJECT THAT REFERS TO THE MODEL**
- **SCOPE ALLOWS TO SET WATCHERS ON A MODEL**
- **SCOPE PROPAGATES EVENTS ALLOWING TO BROADCAST AND LISTEN**

```
$scope.$watch('myModel', function (newVal, oldVal) {  
  console.log('the model myModel has changed!');  
  console.log('Its new value is ', newVal);  
  console.log('Its old value was ', oldVal);  
});
```

# DIRECTIVES:

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- NATURAL DECLARATIVE APPROACH
- REUSABLE COMPONENTS
- MAKE BROWSER SMARTER WITH `<myelement></myelement>`
- MANIPULATE DOM ONLY(!) HERE WITH NO NEED OF JQUERY

<http://docs.angularjs.org/guide/directive>

## DIRECTIVE:

```
Directives.directive('linkyfy', function () {  
  return {  
    restrict: 'A', // like attribute  
    scope: {  
      text: '=linkyfy' // isolated scope  
    },  
    link: function (scope, elem, attrs) { // where the magic happens  
      var result = scope.text.replace(urlRegex, function () {  
        return '<a href="' + url + '"'> + url + '</a>';  
      });  
      elem.html(result);  
    }  
  };  
});
```

## TEMPLATE:

```
<div linkify="item.description"></div>
```

# **ANGULAR.JS + REQUIRE.JS SPECIFICS**



**NO NEED FOR “ng-app” DIRECTIVE**  
**MANUAL APPLICATION BOOTSTRAP**  
**REQUIRE DEPENDENCIES**

## MAIN MODULE APP.JS:

```
define(function (require) {
  'use strict';

  var angular = require('angular');
  var services = require('./services/services');
  var controllers = require('./controllers/controllers');
  var directives = require('./directives/directives');

  var app = angular.module('yourApp', ['services', 'controllers', 'directives']);

  app.init = function () {
    angular.bootstrap(document, ['yourApp']);
  };
  ...
  return app;
});
```

## REQUIRE'S MAIN.JS:

```
require.config({
  ...
});

require(['app'], function (app) {
  app.init();
});
```

# **FEW WORDS ABOUT INFRASTRUCTURE**



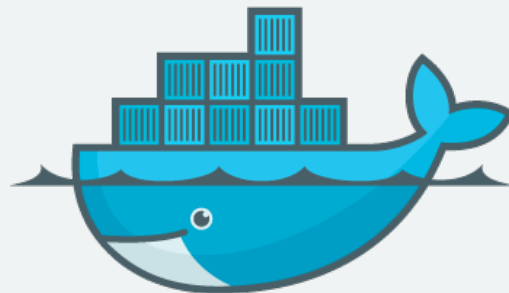
# BOWER

CLIENT-SIDE PACKAGES MANAGEMENT



# GRUNT

HINTING, MINIFYING AND BUILDING



# docker

# DOKKU

GIT PUSH PRODUCTION MASTER



# FULL TEXT SEARCH DEMO





# RESOURCES

<https://github.com/linnovate/mean>

<http://www.mean.io/>

<https://github.com/mgechev/angularjs-style-guide>

<https://github.com/marcorinck/ngStart>

<https://github.com/tnajdek/angular-requirejs-seed>

<http://beletsky.net/2013/10/securing-express-dot-js-http-endpoints.html>

**QUESTIONS?**



**THANKS, @voronianski**