

welcome to...

**USB Labs**

<http://www.bit.ly/1KBA3RG>

“What the hell am I doing here?”

-You, right now

1. Sample project (2 weeks)
2. Real-world project (9 weeks)

# The Sample Project

## LINK HUNT

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**Ask questions**

# Schedule

- Session 1: Angular.JS
- Session 2: Node.JS/Express
- Session 3: Node.JS/Express
- Session 4: MongoDB



**MEAN**  
STACK

# Why Javascript?

- It's the language of the web
- Easy to get started
- It can power entire applications
- It's becoming more and more powerful

**MEAN**  
STACK

**M**ongoDB

**E**xpress.JS

**A**ngular.JS

**N**ode.JS

**MongoDB**

Express.JS

Angular.JS

Node.JS



- Open-source database management system
- Documents have JSON structure
- Really easy to get started

# JavaScript Object Notation



# Serialized JavaScript objects

```
{  
  name: "Bob",  
  age: 21,  
  clubs: ["Purdue Hackers", "USB"]  
}
```

key



{

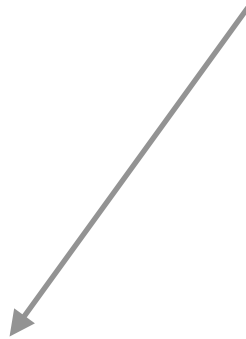
name: "Bob",

age: 21,

clubs: ["Purdue Hackers", "USB"]

}

value



{

name: "Bob",

age: 21,

clubs: ["Purdue Hackers", "USB"]

}



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# express

- Simple web framework for Node.JS
- Allows you to skip the overhead of common web development tasks



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- HTML designed for web applications
- Data-binding
- Templating!

```
<html>
  <head>
    <title>Website Title</title>
  </head>
  <body>
    <div>Hello World</div>
  </body>
</html>
```

```
<html>
```

```
  <head>
```

```
    <title>Website Title</title>
```

```
    <script src="http://ajax.googleapis.com/ajax/
    libs/angularjs/1.3.10/angular.min.js"></
    script>
```

```
    <script src="app.js"></script>
```

```
  </head>
```

```
  <body ng-app="sample-app" ng-controller="main">
```

```
    <div>{{example}}</div>
```

```
  </body>
```

```
</html>
```



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- Wrapper around JavaScript
- Uses JSON (yay!)
- Super fast

# Recap

- MongoDB manages your database
- Express.JS allows you to easily set up servers, routes, etc.
- Angular.JS makes your web application dynamic
- Node.JS lets you run JavaScript outside of the browser

Questions?

Let's Dive In

# What is Node.JS?

- Used as a backend
- Not a webserver
- Simply a wrapper that allows you to run Javascript independently of a browser

**How easy is it to build a webserver?**



```
var http = require('http');

const PORT=8080;

function handleRequest(request, response){
    response.end('It Works!! Path Hit: ' +
        request.url);
}

var server = http.createServer(handleRequest);

server.listen(PORT, function(){
    console.log("Server listening on: http://
        localhost:%s", PORT);
});
```