



WHAT DIDN'T WE COVER ...

A Lot!

REST VS CURL VS AJAX

AJAX – Asynchronous Javascript and XML
HTTP Requests that can be made to an API on a server from the client

CURL – Client URL
Command line tool with that facilitates transfer of data via URL
Supports HTTP which makes it helpful for interacting with API's
Will need a supporting library to create programmatic implementation
Wist https://incarnate.github.io/curl-to-php/ to see the conversion of a curl command into PHP

REST - Representational State Transfer
Created by Roy Fielding in 2000
Suited for Internet-scale systems

When a RESTful API is called, it transfers a representation of the state of the requested resource to the client – usually in JSON
REST is one way to do AJAX

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WHAT MAKES AN API REST-FUL: 6 CONSTRAINTS 1. Uniform interface = Simply stated: URL – but there is more to it. 2. Client / Server = Client / server separation (they act independently) 3. Communication is Stateless = Just like HTML, it does not matter which operation happened before or after 4. Response from server can be Cacheable or Uncacheable = Version numbers can assist with caching data 5. Layered 1. Client should only be aware of one layer with which it is communicating 6. Code-on-demand (optional – runnable script can be returned as the response to the client – like Javascript or a Java applet)

FULL STACK DEVELOPMENT

A Full Stack developer is versed in working pn the front-end (client) and back-end (server)

The MEAN Stack

Mongo

Express

Angular

React

Node

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EXPRESSIS

- Web app framework for Node.js
- ExpressJS is a framework that runs on top of Node to make common tasks easier
- Free and open source
- Express lets you work with Routes
 - A route is a combination of a URL path and a method (GET, POST, etc)
 - Handlers can be established for different routes

USING EXPRESS

- Express is a Node.js module
 - npm install express
- You may also want to install:
 - body-parser handles JSON and other data
 - cookie-parser gets cookie data
 - multer helps with uploading files in a form

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EXPRESS EXAMPLE: HELLO WORLD

```
var express=require('express');
var exp=express();
exp.get('/',function(req,res)
{
   res.send('Hello World!');
});
var server=exp.listen(3000,function() {});
```

REACT VS ANGULAR



- React is a Library* -- Angular is a Framework
- React is more flexible -- Angular provides structure including templates
- React is FAST
- Angular provides two-way data binding
- React is seen as easier to get started with, Angular is seen as having more development elements in place
- $\,\blacksquare\,$ Both are growing fast React is ahead at this point

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ANGULAR.JS

- Client side (front end) framework for JavaScript
- Purpose is to extend HTML by creating dynamic views
- Created at Google in 2012 and supported/promoted by Google
- Supports MVC development (MVC => Multiple View Controller)
- Need to include the angularjs in your client side Javascript code
- script src= "https://ajax.googleapis.com/ajax/libs/angularjs/1.2.3/angular.min.js"> </script>

<html ng-app> </head> **ANGULAR** <body> "HELLO WORLD" <div> **EXAMPLE** <label>Enter Name:</label> <input type="text" ng-model=" theName" > <h2>Hello {{theName}}!</h2> </div> </body> </html>

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ANGULAR DIRECTIVES

- ng-app tells AngularJS that a div "owns" the app
- ng-bind binds content to an Angular variable value
- ng-init initializes an Angular variable

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ng-model binds a field value to a variable

<div ng-app="" ng-init="greet='World'"> Hello </div>

ANGULAR EXPRESSIONS

- Expressions are in {{ ... }}
- For example: {{10/2}}

<div ng-app=""> <input type="text" ng-model="first_name"> Hello {{first_name}} </div>

REACT

- Created at Facebook (2013) and strongly supported by Facebook
- Made for building user interfaces
- Minimalist approach: creates a VIRTUAL DOM that is manipulated before affecting the browser DOM
- Can be run client, with node or react native for mobile apps
- Uses JSX, XML/HTML based language built on top of JavaScript
- Creates components (mix of html and javascript) whose structure is similar to a class, and then renders the components – ex, button component
- There may be a hierarchy of the components
- Minimizes cross browser issues
- Facilitates unit testing and AJAX requests

React Code import React from 'react'; import ReactDOM from 'react-dom'; class Hello extends React.Component { REACT EXAMPLE render() { return <h1>Hello World!</h1>; ReactDOM.render(<Hello />, document.getElementById(hello'));

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CMS - CONTENT MANAGEMENT SYSTEMS

- A CMS merges page content with Reusable content /page elements a design template.
 - Separation of content, design, and
- Easy content editing and publishing

functionality.

- Modules and/or templates
- Security/permissions
- Versioning / ability to rollback
- Previewing

A CMS lets you be content-driven.

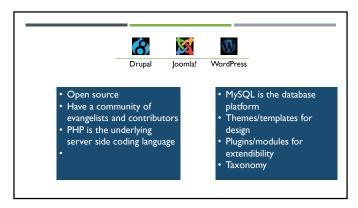
POPULAR CMS PLATFORMS

- WordPress (27+ Million Live Websites | 34% of all active sites kinsta.com)
- Wix (3.8+ Million Live Websites)
- Squarespace (1.9+ Million Live Websites)
- Joomla! (1.8+ Million Live Websites)
- Shopify (1.1+ Million Live Websites) Drupal (630+Thousand Live Websites)
- Blogger (430+ Thousand Live Websites)
- Prestashop (285+ Thousand Live Websites)
- Magento (265+Thousand Live Websites)
- Bitrix (223+ Thousand Live Websites)

Source: websitesetup.org Oct 8, 2019

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MOBILE DEVELOPMENT Web app vs Mobile/Native app Native apps • 204 billion mobile app Installed on device Does not need internet to run downloads in 2019 Must be accessed through Apple iStore or Google Play Store Mobile app revenue 2019: Must be built separately for each platform \$462 billion SDK's to assist with development iOS vs Android Many frameworks and dev tools including React and Angular Laguages: Objective C, Swift and C# for iOS Java or Python (primarily) for Android