

Building WordPress sites with AngularJS and the RESTful plugin JSON API

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Introduction

Web Development is Changing...

- Modern web development
 - Less Server Platform (PHP, Java, .NET)
 - More Web Browser Platform (HTML/CSS/**JavaScript**)
- Modern web applications
 - Web server is a repository of user interface templates (HTML, CSS, JS resources) and it provides access to data
 - Binding of templates and data is handled through JavaScript frameworks on the web browser
 - Navigating from page to page is handled by Web Browser based JavaScript routing systems that do not involve reloading the entire page from the server
 - Web browsers use AJAX to send/receive data to/from RESTful services provided by the web server

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Why is Web Development Changing?

- Web browsers and client devices are becoming more capable
 - Devices in general (desktops, laptops, tablets, phones) are very powerful
 - Web browsers are emerging as a true platform
 - Chromebooks, Chrome Store
- Web technology is being used to construct UIs for traditional apps
 - PhoneGap
 - Windows 8 Apps
- JavaScript on the Server - Node.JS
 - Used for development and development tooling
 - More and more libraries being created
- Because JavaScript is being used everywhere, developers in general increasingly want to use in the browser

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How does this Web Development Change Benefit Users?

- Pushing more code to the browser results in application called Single Web Page Applications more commonly called Single Page Applications or simply SPAs
- How do users benefit from SPAs?
 - SPAs in general are more functional (without a page reload) and behave more like desktop apps
- In a high network latency environment, a well written SPA can continue to perform acceptably for the user
 - Example: Marriott and Conference Center Internet
- Many SPAs can operate in **offline** mode allow the user to use the web application even when disconnect then when they connect again everything gets synced up

Introduction

WordPress (and other Content Management Systems)

- When people think WordPress, they think blogging software
 - But really, WordPress is so much more... Truly, its a very powerful, extensible and capable Content Management System
- WordPress has been around for a long time, is well tested, well supported by a huge community of bloggers, developers, plugin & theme providers
- WordPress is a great tool but it was also developed in an earlier time when web applications were more server-driven and less browser-driven
- Out of the box
 - WordPress relies upon the server for all processing of the user interface
 - Real JavaScript functionality is limited

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Transforming WordPress

- WordPress does not have to be limited to older server-driven techniques
- To bring WordPress into the next generation of web apps
 - Create themes that leverage the power of JavaScript libraries such as KnockoutJS, EmberJS and AngularJS.
 - Employ plugins which provides RESTful services that provide access to core WordPress data
 - Up and coming - WP REST API - new RESTful API for WordPress
- The result
 - Blogs and websites which perform better with the latest development technologies

Using AngularJS

Why AngularJS?

- AngularJS is a complete framework for building Single Page Applications
 - Using the MVC pattern, it can manage your models and views including routing to different views
 - Supports two-way data binding allow easy data collection via forms
 - Provide directives to build complex reusable UI components that integrate nicely into your application
 - Provides an excellent mocking library so you can follow test-driven development principles and really write unit tests for your code before implementation
 - Allows for the creation of cross cutting services that can provide useful functionality throughout your application
- AngularJS is the current hot web development technology - everyone from small shops to very large corporations are embracing it

Introduction

Goals for Today...

- Inform you of the changing landscape of web development with WordPress (or really any other web development platform)
- Demonstrate one of the many technologies changing web development today, AngularJS within the context of WordPress
- Persuade you to focus less on the server and embrace JavaScript (and its many frameworks) and the Web Browser (as a true platform not just a viewer) for sophisticated and powerful web applications

Let's Get Started...

What we will cover

- Starting with a clean copy of WordPress
 - Create a new theme
 - Add AngularJS to the theme
 - On the blog home page, replace the usual list of blog entries with an AngularJS powered list
 - Install the RESTful JSON API Plugin
 - Use AngularJS to display a specific blog entry
 - Refactor original blog post listing to use JSON API and `angular.ForEach`
 - Clean up routing URLs using HTML 5 Mode
 - Move Module to External JS File

Thank You for Attending!

Some Good AngularJS Resources

- Some good resources for learning more about AngularJS
 - Pro AngularJS from APress (<http://www.apress.com/9781430264484>)
 - Ng-Book (<https://www.ng-book.com/>)
 - WintellectNow Training Videos (<https://www.wintellectnow.com/Videos/Index?searchString=AngularJS>)
 - Accelebrate, Inc. On-site Training (<http://www.accelebrate.com/>)
- WordPress REST API (instead of the JSON API Plugin)
 - <http://wp-api.org/>
- Download Today's Demos
 - <https://github.com/ericwgreene/wordpress-angularjs-jsonapi>
 - Includes all source code and PDF of slide deck