

FULL STACK WEBSITE APPS

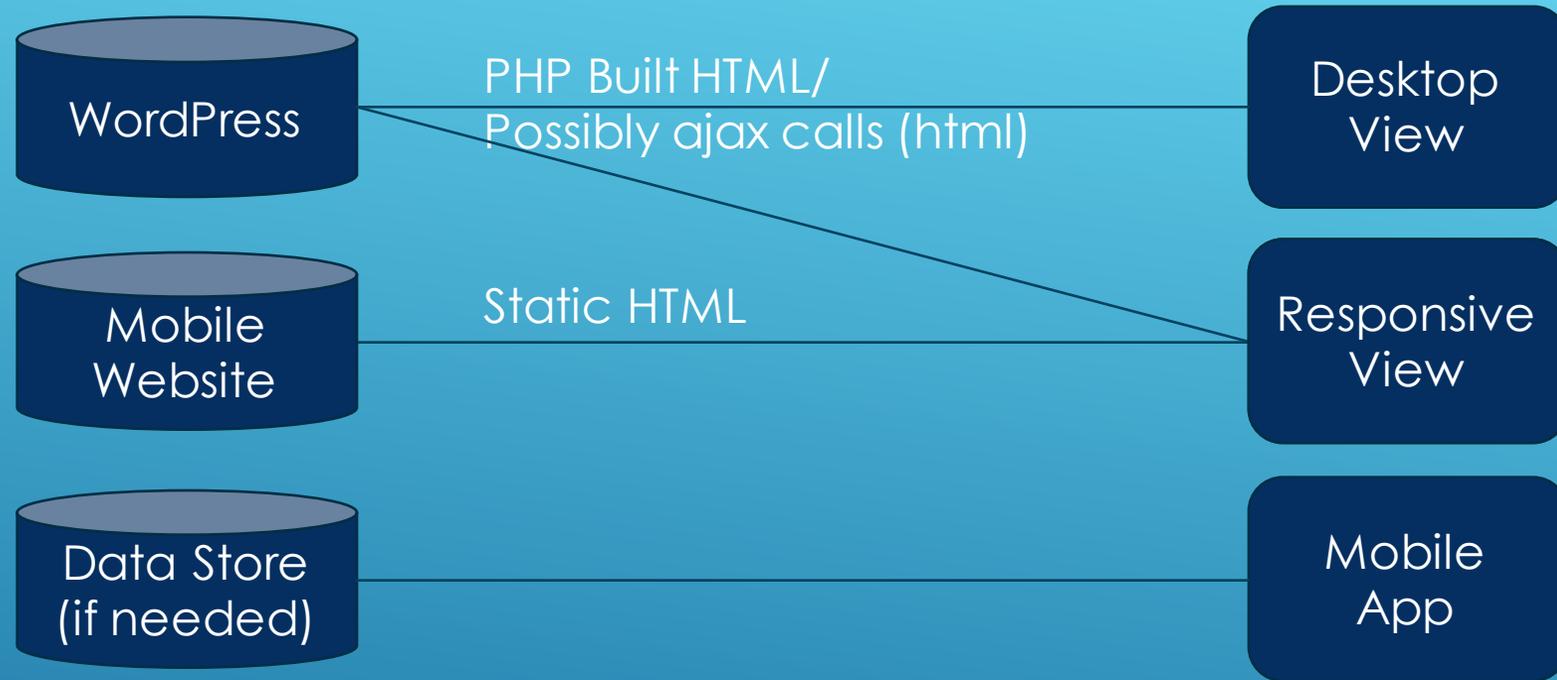
Using The WordPress REST API To Build A

- Desktop Website App
- Mobile Website App
- Mobile App

Solution

- ▶ I really hope I don't have to convince this group that mobile now needs to be the primary platform target when considering platform architecture and graphic design.
- ▶ In March 2015, Mobile-only users began to exceed desktop-only users among adult internet users.
- ▶ The generation entering adulthood today typically finds limited reason to use desktop or laptop devices as all of their communication needs and research needs can be fulfilled by mobile devices. Most younger computer users see a desktop/laptop computer as a school work / job device.
- ▶ At Ambrosia we are currently working with our clients to help them accept this and make the appropriate shifts in their website technologies (primarily, moving to responsive solutions, but also considering mobile apps) to meet their customers where they are.
- ▶ Lastly, clients are starting to recognize that mobile apps, even if they do nothing more than mimic the capabilities and content of the mobile website, are a high value as they create permanent property space on their customer's mobile devices.

CRITICALITY OF MOBILE



TRADITIONAL ARCHITECTURAL VIEW

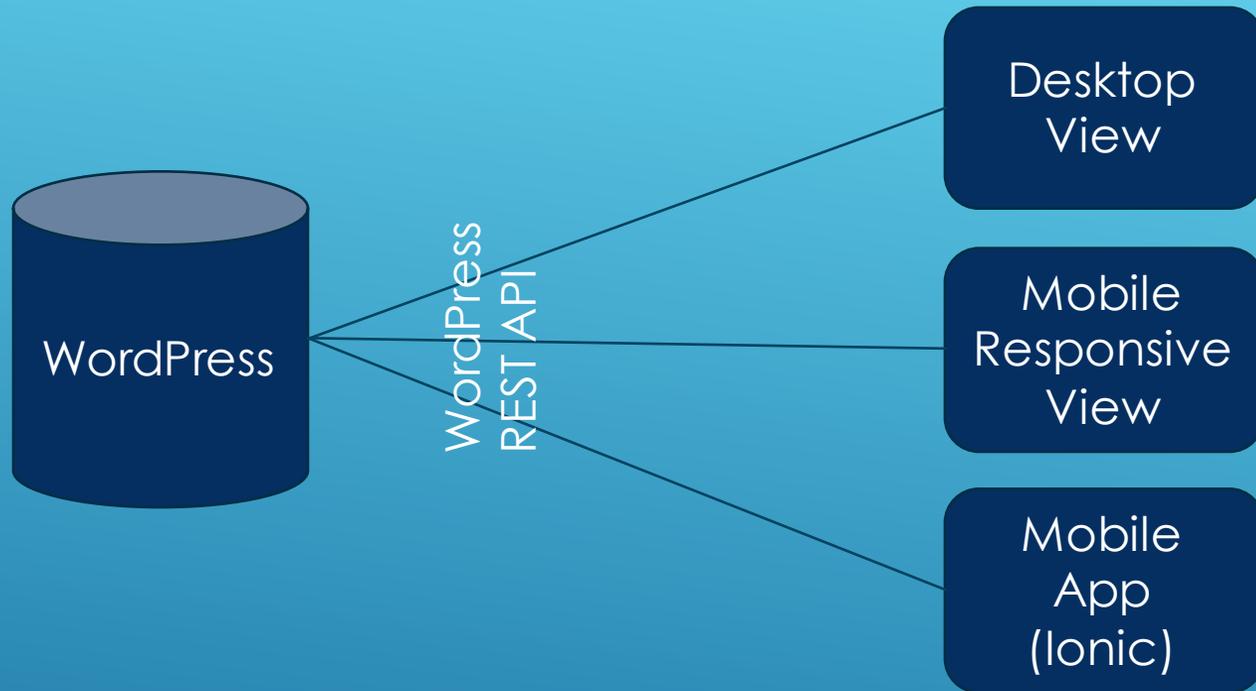
Worst Case

- ▶ Individual solutions built independent of each other
- ▶ Multiple sources of data leads to lack of consistency in content and timing of delivery
- ▶ Human error becomes a factor in providing a consistent content view

Best Case

- ▶ Individual solutions built with common requirements
- ▶ Single data source ensures consistency in content and timing of delivery
- ▶ Human factor in providing consistent content view no longer necessary

A TAIL OF TWO WEB APPS



SIMPLE ARCHITECTURAL VIEW

Custom Plugin
Custom Endpoints
Custom Functionality
WP Security (Custom?)



WordPress
REST API

Desktop
View

AngularJS
Standard \$http Service

Mobile
Responsive
View

AngularJS
Standard \$http Service

Mobile
App
(Ionic)

Ionic
targets:
iOS
Android
WindowsPhone
AngularJS
Standard \$http Service
Cordova

TECH STACK VIEW

- ▶ WordPress can be leveraged as an application framework
- ▶ App solutions can be integrated into external or internal websites hosted on WordPress
- ▶ Angular provides a strong presentation layer paradigm
- ▶ Ionic makes much of the work easy for developing hybrid mobile apps
- ▶ Ionic's use of Angular creates reuse opportunities between the mobile app and the other presentation solutions
- ▶ Clients LOVE the idea of creating content once!

THIS FULL STACK VALUE POINTS

- ▶ Client: Clive Festival (<http://clivefestival.com>)
- ▶ Non profit annual music/food/beer/wine/childrens' activites/vendors/fun held in July (21-23 this year)
- ▶ Ambrosia hosts the website and manages the content
- ▶ Currently the site only has a desktop view
- ▶ Project will provide
 - ▶ A responsive view for mobile access to the website
 - ▶ A mobile app providing access to
 - ▶ Activities schedule
 - ▶ Map integration
 - ▶ Donation Page
 - ▶ Added bonus on the mobile app might be easy integration with the Facebook and twitter pages

FORMAL PROJECT

- ▶ WP REST API missed the 4.5 release
 - ▶ Not a big deal since the plugin still can fit the need
 - ▶ Not sure however where Automatic is regarding incorporation into Core. It will be a pain if the REST API remains a plugin since using it will then require supplying/installing the plugin
- ▶ Selecting An Authentication Protocol (Reference <http://v2.wp-api.org/guide/authentication>)
 - ▶ Plugins/Themes:
 - ▶ Cookie
 - ▶ External Apps/Websites:
 - ▶ OAuth (OAuth 1.0a RFC5849, using the OAuth plugin)
 - ▶ Basic Authentication (putting credentials into transactions – not advised for production)
 - ▶ Application Passwords (putting temporary credentials into transactions – still not advised for production)

CHALLENGES

- ▶ To do some initial validation of capabilities, we're setting up a test project to access and update event items within The Events Calendar Plugin.
- ▶ The Events Calendar will be fully REST API integrated in the future, but for now they've provided some example code for extending their product to customized endpoints
- ▶ The primary purpose of this activity is simply to demonstrate the ability to read from the custom REST API from a JavaScript application and present the data on a desktop screen.

SANDBOX ACTIVITY

```

add_filter( 'is_protected_meta', function( $protected,
$meta_key ) {
    if ( '_EventStartDate' == $meta_key ||
'_EventEndDate' == $meta_key || '_EventDuration' ==
$meta_key || '_EventVenueID' == $meta_key && defined(
'REST_REQUEST' )&& REST_REQUEST ) {
        $protected = false;
    }

    return $protected;
}, 10, 2 );

```

```

function tribe_api_query( $query ) {
    $events = tribe_get_events( array(
        'eventDisplay' => $query['eventDisplay'],
        'start_date'   => $query['start_date'],
        'end_date'     => $query['end_date']
    ) );
    if ( empty( $events ) ) {
        return null;
    }
    return $events;
}

add_action( 'rest_api_init', function () {
    register_rest_route( 'tribe_events/v2',
'/events/(?P<eventDisplay>[a-z\-\-]+)/(?P<start_date>[a-z0-9\-\-
-]+)/(?P<end_date>[a-z0-9\-\-])', array(
        'methods' => 'GET',
        'callback' => 'tribe_api_query',
    ) );
} );

```

Custom
Endpoint using
Adaptor
Pattern

CODE SUPPLIED BY PLUGIN COMPANY

Browser tabs: Edit Event - Ambrosia Web, Event 1 - Ambrosia Web Te, Design Patterns

Address bar: test.ambrosiawebtechnology.com/event/event-1/

Bookmarks: Apps, Bookmarks, Ionic, TCR, WordPress, Ambrosia, Projects, Technology, Research, General Reading, SEO, Wells Fargo, Valley Church, Miscellaneous, Other Bookmarks

Navigation: Ambrosia Web Technology - Test, Customize, 1, 0, + New, Edit Event, SEO, Performance, Events

Header: Ambrosia WEB TECHNOLOGY, LLC + [Logo] HOME ABOUT SERVICES CONTACT (855)593-2776

Howdy, artsuper

< All Events

Event 1

April 25 @ 5:30 pm - 7:00 pm

This is a test event, for testing with the REST API.

+ GOOGLE CALENDAR + ICAL EXPORT

Details <p>Date: April 25</p> <p>Time: 5:30 pm - 7:00 pm</p> <p>Website: http://www.meetup.com/wordpressdsm/events/230492738/?gj=c02&rv=c02</p>	Venue <p>Gravitate</p> <p>206 6th Ave Des Moines, IA 50200 United States</p> <p>+ Google Map</p>	
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Postman

Builder Runner Import Update found! Click [About](#) to update

Search

History Collections

Add to collection

Today

GET http://test.ambrosiawebtechnology.com/wp-json/tribe_events/v2/events/custom/2016-04-01/2016-04-30

No environment

GET http://test.ambrosiawebtechnology.com/wp-json/tribe_events/v2/events/custom/2016-04-01/2016-04-30

Authorization Headers (0) Body Pre-request script Tests

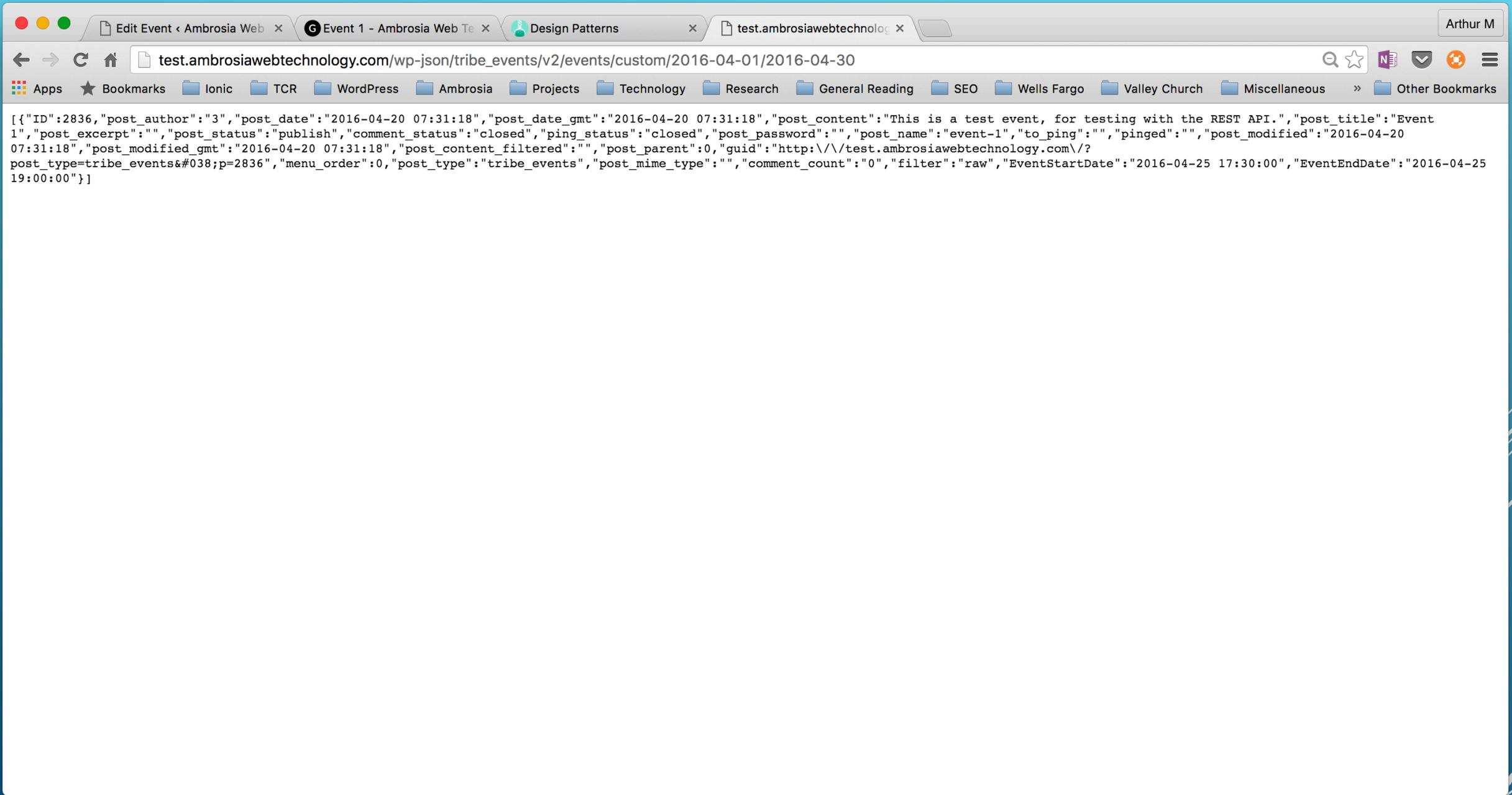
No Auth

Body Cookies Headers (15) Tests (0/0) Status 200 OK Time 2983 ms

Pretty Raw Preview JSON

```
1 [
2   {
3     "ID": 2836,
4     "post_author": "3",
5     "post_date": "2016-04-20 07:31:18",
6     "post_date_gmt": "2016-04-20 07:31:18",
7     "post_content": "This is a test event, for testing with the REST API.",
8     "post_title": "Event 1",
9     "post_excerpt": "",
10    "post_status": "publish",
11    "comment_status": "closed",
12    "ping_status": "closed",
13    "post_password": "",
14    "post_name": "event-1",
15    "to_ping": "",
16    "pinged": "",
17    "post_modified": "2016-04-20 07:31:18",
18    "post_modified_gmt": "2016-04-20 07:31:18",
19    "post_content_filtered": "",
20    "post_parent": 0,
21    "guid": "http://test.ambrosiawebtechnology.com/?post_type=tribe_events&#038;p=2836",
22    "menu_order": 0,
23    "post_type": "tribe_events",
24    "post_mime_type": "",
25    "comment_count": "0",
26    "filter": "raw",
27    "EventStartDate": "2016-04-25 17:30:00",
28    "EventEndDate": "2016-04-25 19:00:00"
29  }
30 ]
```

Event



```
<HTML>
<head>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.12.0/jquery.min.js"></script>
</head>
<body>
<div id="content"><p>This is where the content will go.</p></div>
<script>
    $(document).ready( function () {
        $.get(
            "http://test.ambrosiawebtechnology.com/wp-json/tribe_events/v2/events/custom/2016-04-01/2016-05-30",
            function (response) {
                var msg = "";
                $.each(response, function(index, value) {
                    msg += "<h1>"+value.post_title+"</h1>"+<p>"+value.post_content+"</p>"+
                        "<p>At: "+value.EventStartDate+" - "+value.EventEndDate+"</p>";
                });
                $('#content').html(msg);
            });
    });
</script>
</body>
</HTML>
```

REST API CLIENT: JS/JQUERY

```
<HTML ng-app='eventsApp'>
<head>
<script src="https://ajax.googleapis.com/ajax/libs/angularjs/1.5.5/angular.min.js"></script>
</head>
<body>
  <div ng-controller="eventsCtrl as events">
    <div ng-repeat="event in events.arr">
      <h1>{{event.post_title}}</h1>
      <p>{{event.post_content}}</p>
      <p>At: {{event.EventStartDate}} - {{event.EventEndDate}}</p>
    </div>
  </div>
<script>
  angular.module('eventsApp', [])
  .controller('eventsCtrl', function ( $http ) {
    var events = this;
    events.arr = [];
    $http.get(
      'http://test.ambrosiawebtechnology.com/wp-json/tribe_events/v2/events/custom/2016-04-01/2016-05-30')
    .then(function (response) {
      angular.forEach(response.data, function(event) {
        events.arr.push(event);
      });
    });
  });
</script>
</body>
</HTML>
```

REST API CLIENT: JS/ANGULARJS (1.5.5)

The screenshot shows a web browser window with the following details:

- Browser Tabs:** test.ar x, test.ar x, Angul x, A Littl x, Angul x, javasc x, Using x, Angul x, Angul x, Chrom x, Arthur M
- Address Bar:** test.ambrosiawebtechnology.com/wp-content/plugins/AMB_Functions/temp2.html
- Bookmarks:** Apps, Bookmarks, Ionic, TCR, WordPress, Ambrosia, Projects, Technology, Research, General Reading, Other Bookmarks
- Event 1:**
 - Section Header:**

Event 1
 - Description:** This is a test event, for testing with the REST API.
 - Time:** At: 2016-04-25 17:30:00 - 2016-04-25 19:00:00
- Event 2:**
 - Section Header:**

Event 2
 - Description:** It just seems to make sense that if I have a demonstration with "Events", that I should probably have multiple events to show. So, this is the second one.
 - Time:** At: 2016-05-03 08:00:00 - 2016-05-03 17:00:00

http://test.ambrosiawebtechnology.com/wp-content/plugins/AMB_Functions/temp2.html

- ▶ Postman – A Chrome extension for testing REST API transactions
- ▶ AngularJS – A Google managed JS Framework. This is an open source project, and has good support from the AngularJS team at Google, and a reasonably strong community. It does take some time to learn how to use this tool effectively.
- ▶ Ionic – A platform for developing mobile applications using a website development model. The resulting code essentially is running in a web browser container. Referred to as “hybrid” mobile development, it really helps to leverage your existing skills in HTML, CSS, JS and AngularJS. Ionic has a number of custom extensions tied into Angular and HTML/CSS that help in creating apps. Can target iOS, Android and Windows Phone.

TOOLS

- ▶ Start with WordPress 4.4 or 4.5 using the WP REST API Plugin.
- ▶ Go directly to Angular 2. No sense converting from 1.x
- ▶ Go directly to Ionic 2. It utilizes Angular 2.
- ▶ Starting development with the Ionic code can help since some of the Angular code can likely be reused on the other two solutions.
- ▶ You might also want to delve into TypeScript. Angular 2 is written in TypeScript, and provides strong typing and OO capabilities (if you hate using prototypes, you'll probably like TypeScript).

RECOMMENDATIONS

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QUESTIONS?

