**WP REST API and AJAX FORMS**

**Step-By-Step Course**

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**DESIRED OUTCOME:**

* To understand WP REST API.
* How to use to get data and to display data using JavaScript.
* How to create new endpoints and edit existing ones in the built in REST API for GET and POST requests.
* Create forms that use AJAX to WP REST API.
* Secure FORMS with WP NONCE.

**Final project** is a form that creates a new post using a custom WP REST API endpoint that we will create that validates data types and has a NONCE to provide security from Cross Site Forgery.

**DOWNLOAD WORKSHOP PACK**

Download files from <https://www.wpjs.co.uk/rest.zip>

Or <https://github.com/iwswordpress/rest>

The pack contains all the code necessary to replicate the final project, the slides for the talk and a resource list.

*Much inspiration was drawn from the following playlist on YouTube, particularly lessons 14 onwards:*

<https://www.youtube.com/watch?v=c_piVnQrJuY&list=PLT9miexWCpPU3TtDIVxA765dh2MaJY5X3>

*I highly recommend watching these tutorials.*

**SET UP**

**Step by step**

\_workshop-php has two folders:

1. mu-plugins
2. php

**mu-plugins** has files that contain functions which will be automatically loaded like plugins but cannot be turned on or off unless removed.

The page-xxxx.php can be copied to root of your theme.

Create blank pages for the following:

ajax, ajax-search, post, nonce and post-nonce

and add to menu if you wish…

We use one MySQL custom table. The script is in the SQL folder.

The function.php file is for a child theme and has no relevant code for the workshop. DO NOT USE unless you want to.

Site structure:

A screenshot of a cell phone

Description automatically generated

Copy mu-plugins into wp-content folder.

A screenshot of a cell phone

Description automatically generated

Copy page-xxxx.php files into root of your theme. A screenshot of a cell phone

Description automatically generated

A screenshot of a computer screen

Description automatically generated

test yourWPsite/ajax gives you the same page as me.

If we have a file page-ajax.php and a blank page in WP ajax, then [www.site.com/ajax](http://www.site.com/ajax) will render that page.

NB In SETTINGS > PERMALINKS ensure **Post name** is selected:

A screenshot of a cell phone

Description automatically generated

In <https://49plus.co.uk/udemyt> site I use generatepress-child as a child theme. The plugin 02\_CREATE\_CHILD\_THEME.zip in the code pack will enable you to create a child theme with the name of your choice.

Once installed, it will be in the APPEARANCE section.

**Chrome Extension - JSON Formatter**

It is useful to have a JSON formatter in the browser. Search for *Chrome Extensions JSON Formatter* and install.

<https://chrome.google.com/webstore/detail/json-formatter/bcjindcccaagfpapjjmafapmmgkkhgoa?hl=en>

Or use <https://jsoneditoronline.org/> which we will need later anyway.

**What are REST/AJAX/JSON?**

PowerPoint slide->

Roy Fielding propose REST as a guiding practice in his thesis in 2000:

<https://www.ics.uci.edu/~fielding/pubs/dissertation/rest_arch_style.htm>

By its nature, HTTP is very RESTful.

We will look at the wp-json object that is the REST API for WP.

Open <https://jsoneditoronline.org/>

In browser type in <https://49plus.co.uk/udemy/wp-json/> and copy and paste this into JSON EDITOR.

We can now see what the REST API contains…

Let us look at the ‘hello world’ of the REST API:

<https://49plus.co.uk/udemy/wp-json/wp/v2/posts>

We can now see what the REST.

I will now go into detail…

* author
* authorName
* title.rendered

**EX01 – Initial look at endpoints**

**ENDPOINTS**

**HTTP VERB (GET/POST/DELETE…) + URL = ENDPPOINT**

The URLs below can be two endpoints 1) GET 2) POST

<https://49plus.co.uk/udemy/wp-json/wp/v2/posts>

https://49plus.co.uk/udemy/wp-json/wp/v2/posts?\_fields=authorName,id,excerpt,title,link,acf

A selection of useful endpoints, shaded ones most useful:

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?search=fugu](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts?search=fugu)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?s=fugu](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts?s=fugu)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?order=asc](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts?order=asc)

<https://wpjs.co.uk/wpb/wp-json/wp/v2/posts/1220>

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?\_fields=authorName,id,excerpt,title,link,acf](https://wpjs.co.uk/wprest/wp-json/wp/v2/posts?_fields=authorName,id,excerpt,title,link,acf) (underscore before fields)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?\_fields[]=author&\_fields[]=id&\_fields[]=excerpt&\_fields[]=title&\_fields[]=link](https://wpjs.co.uk/wprest/wp-json/wp/v2/posts?_fields%5b%5d=author&_fields%5b%5d=id&_fields%5b%5d=excerpt&_fields%5b%5d=title&_fields%5b%5d=link)

[https://49plus.co.uk/udemy/wp-json/wp/v2/categories](https://wpjs.co.uk/wpb/wp-json/wp/v2/categories)

[https://49plus.co.uk/udemy/wp-json/wp/v2/categories/24](https://wpjs.co.uk/wpb/wp-json/wp/v2/categories/24)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts/?per\_page=2](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts/?per_page=2)

[https://49plus.co.uk/udemy/wp-json/wp/v2/posts?categories=25](https://wpjs.co.uk/wpb/wp-json/wp/v2/posts?categories=25)

[https://49plus.co.uk/udemy/wp-json/wp/v2/users](https://wpjs.co.uk/wpb/wp-json/wp/v2/users)

[https://49plus.co.uk/udemy/wp-json/wp/v2/users/14](https://wpjs.co.uk/wpb/wp-json/wp/v2/users/14)

We can have our own custom endpoints:

[https://49plus.co.uk/udemy/wp-json/wordcamp/v2/districts](https://49plus.co.uk/test/wp-json/wordcamp/v2/districts)

<https://49plus.co.uk/udemy/wp-json/wordcamp/v2/latest-posts/4>

(latest posts in category id=3)

<https://49plus.co.uk/udemy/wp-json/wordcamp/v2/totalusers>

(total number of users)

<https://jsoneditoronline.org/> to format it.

Look in Dev Tools > Console and you can see the output of an array of posts.

These are in rest-custom.php in mu-pluigns.

Let’s look at then now…

**CREATING ENDPOINTS IN WP REST API**

**Sample page of GET requests for POSTS and DATA:**

<https://49plus.co.uk/udemy/ajax/>

We will look at this file to see how to process returned JSON data and render to the page…

**Standard POST form with server validation:**

[https://49plus.co.uk/udemy/ajax-form](https://wpjs.co.uk/rest/ajax-form)

**SEARCH FORM:**

<https://49plus.co.uk/udemy/ajax-search/>

**Create a new post using a custom endpoint:**

<https://49plus.co.uk/udemy/post/>

**Examples of nonces**

<https://49plus.co.uk/udemy/nonce/>

**POST data to create a new post using nonces**

<https://49plus.co.uk/udemy/post-nonce/>