



WordPress to Gatsby

Jack Pritchard





Jack Pritchard

Freelance Fullstack Website Developer

Shameless Plug

Taking on projects for Autumn 2019

I focus on front-end applications and have experience with -

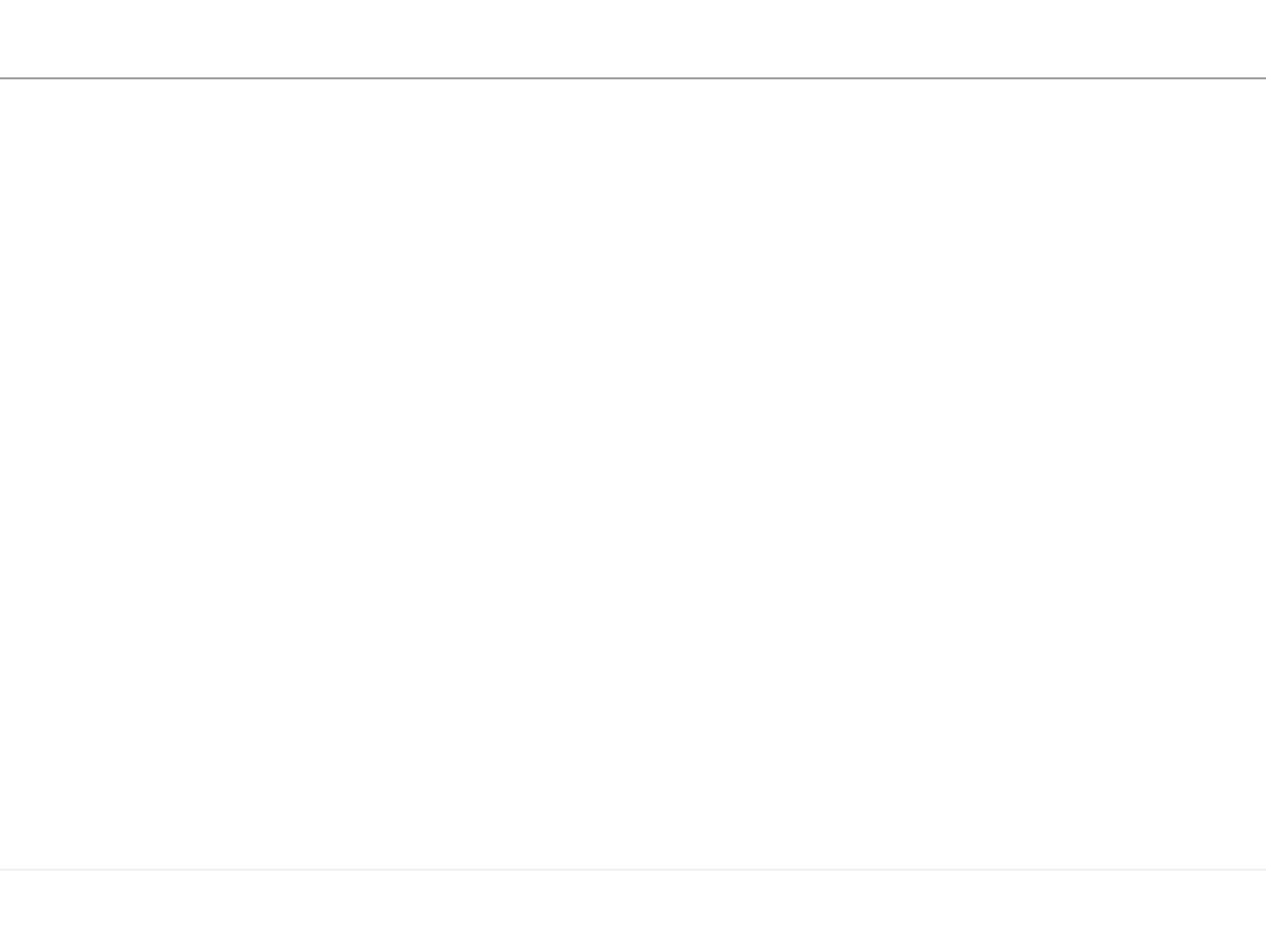
- React
- NextJS
- Gatsby
- WordPress
- Timber

WordPress to Gatsby

In this presentation I hope to show you the power of Gatsby, before creating a bridge between dependable development tools, processes and frameworks like WordPress.

Before We Get Started!

The Final Product



Gatsby

"Gatsby is a free and open source framework based on React that helps developers build blazing fast websites and apps"



Modern web tech without the headache

Enjoy the power of the latest web technologies – React.js , Webpack , modern JavaScript and CSS and more — all set up and waiting for you to start building.

Bring your own data

Gatsby's rich data plugin ecosystem lets you build sites with the data you want — from one or many sources: Pull data from headless CMSs, SaaS services, APIs, databases, your file system, and more directly into your pages using GraphQL .

Scale to the entire internet

Forget complicated deploys with databases and servers and their expensive, time-consuming setup costs, maintenance, and scaling fears. Gatsby.js builds your site as “static” files which can be deployed easily on dozens of services.

Future-proof your website

Do not build a website with last decade's tech. The future of the web is mobile, JavaScript and APIs—the JAMstack. Every website is a web app and every web app is a website.

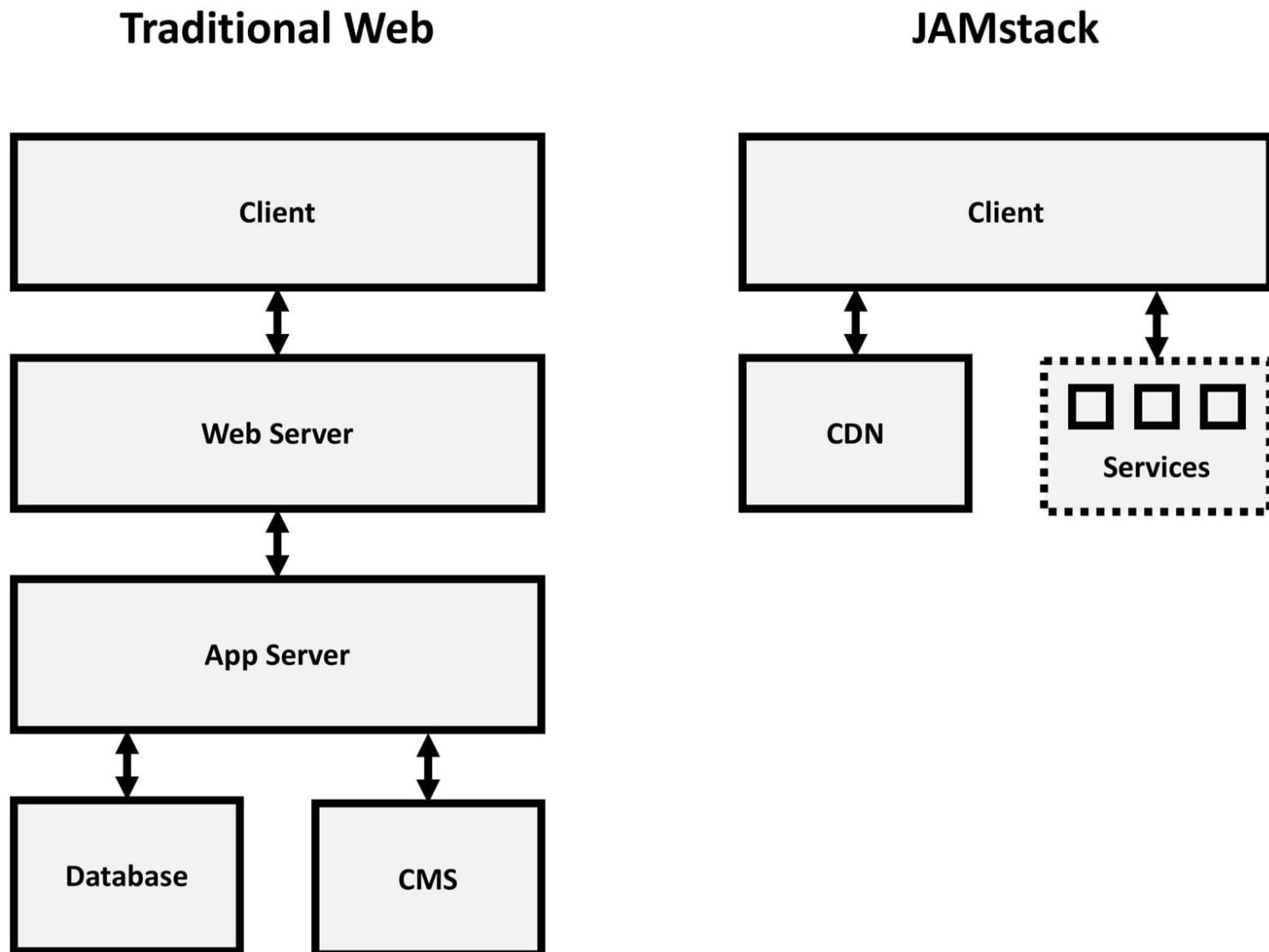
Speed past the competition

Instead of waiting to generate pages when requested, pre-build pages and lift them into a global cloud of servers — ready to be delivered instantly to your users.

My Favourite Benefits of Gatsby

- Hot reloading
- Enables an offline first approach
- No need for heavy queries
- No need for server queries
- Console warnings as you develop, to encourage best practices
- Incredibly quick products

Traditional server vs Gatsby (JAM)



Gatsby Showcase

v: "What Can Gatsby Plugins Do?" - Learn about different types of plugins and how to build one!

Docs Tutorials Plugins Features Blog Showcase Contributing

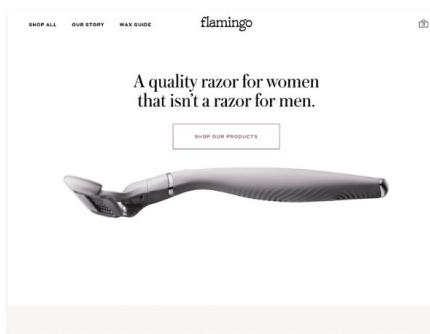
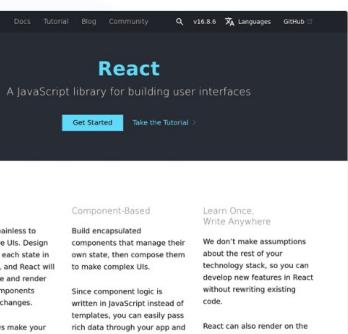
Search

ed Sites

View all →

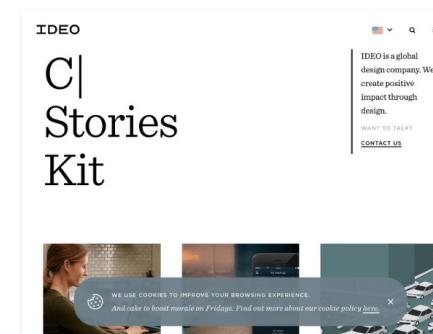
Want to get featured?

Submit your



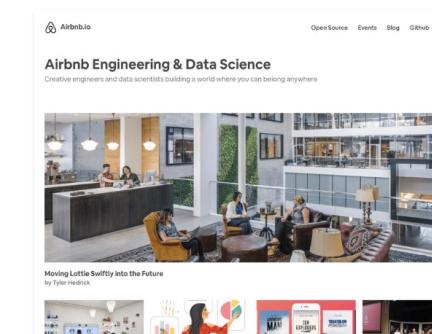
Flamingo

eCommerce, Beauty, Featured



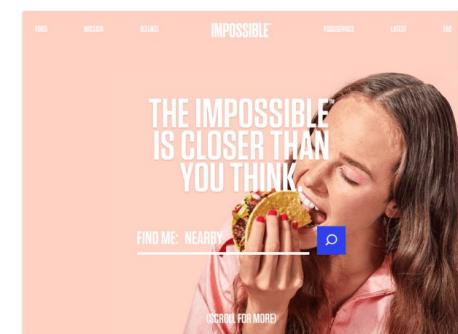
IDEO

Agency, Technology, Featured, Consulting, User Experience



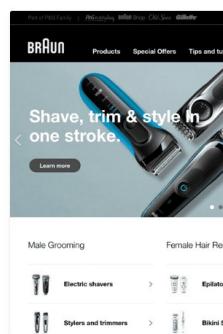
Airbnb Engineering & Data Science

Blog, Gallery, Featured



Impossible Foods

Food, Featured

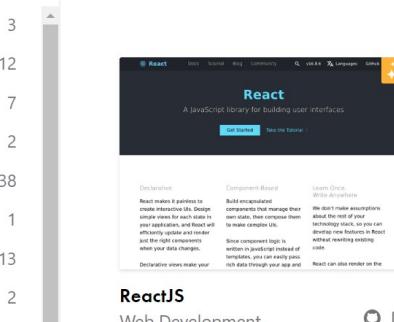


Braun

eCommerce, Featured

gment, Featured

Sites (562)



ReactJS

Web Development, Featured



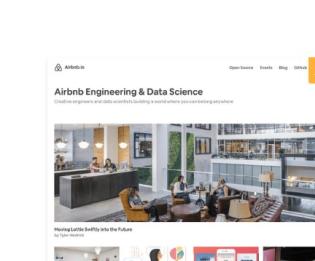
Flamingo

eCommerce, Beauty, Featured



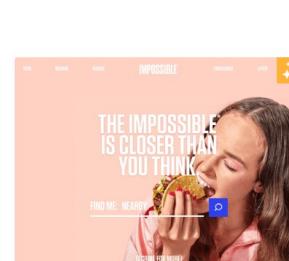
IDEO

Agency, Technology, Featured, Consulting, User Experience



Airbnb Engineering & Data Science

Blog, Gallery, Featured



Impossible Foods

Food, Featured



Braun

eCommerce, Featured



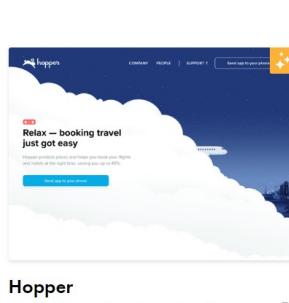
NYC Pride 2019 | WorldPride NYC | Stonewall50

Education, Marketing, Nonprofit, Featured



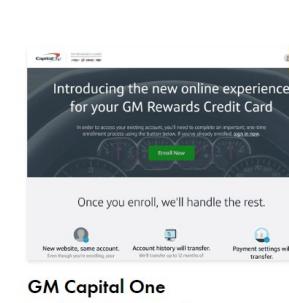
The State of European Tech

Technology, Featured



Hopper

Technology, App, Featured



GM Capital One

Credit Card, Featured



Life Without Barriers | Foster Care

Nonprofit, Education



Figma

Marketing, Design, Featured

149

Gatsby Plugins

v: "What Can Gatsby Plugins Do?" - Learn about different types of plugins and how to build one!

by Docs Tutorials Plugins Features Blog Showcase Contributing

Search

ch Gatsby Library

gin-react-helmet

526k ↓

document head data with react-helmet.
Drop-in server rendering support for

ge

393.4k ↓

ing React image component with optional
the blur-up effect.

gin-manifest

339.6k ↓

in which adds a manifest.webmanifest
for progressive web apps

gin-offline

321.3k ↓

in which sets up a site to be able to run

gin-page-creator

621.5k ↓

in that automatically creates pages
components in specified directories

orce-filesystem

544.1k ↓

in which parses files within a directory
parsing by other plugins

jin-sharp

466.6k ↓

the Sharp image manipulation library
plugins

sformer-sharp

379.3k ↓

sformer plugin for images using Sharp

sformer-remark

271.3k ↓

sformer plugin for Markdown using the
JSDOM and ecosystem

gin-sitemap

189.9k ↓

in that automatically creates a sitemap

Official Plugin View plugin on GitHub

See starters using this

gatsby-plugin-offline

Adds drop-in support for making a Gatsby site work offline and more resistant to bad network connections. It creates a service worker for the site and loads the service worker into the client.

If you're using this plugin with `gatsby-plugin-manifest` (recommended) this plugin should be listed *after* that plugin so the manifest file can be included in the service worker.

Install

```
npm install --save gatsby-plugin-offline
```

How to use

```
// In your gatsby-config.js
plugins: ['gatsby-plugin-offline']
```

Overriding options

When adding this plugin to your `gatsby-config.js`, you can pass in options to override the default [Workbox](#) config.

The default config is as follows. Warning: you can break the offline support by changing these options, so tread carefully.

```
const options = {
  importWorkboxFrom: 'local',
  globDirectory: rootDir,
  globPatterns,
  modifyUrlPrefix: {
    // If `pathPrefix` is configured by user, we should replace
    // the default prefix with `pathPrefix`.
    '/': `${pathPrefix}/`,
  },
  cacheId: `gatsby-plugin-offline`,
  // Don't cache-bust JS or CSS files, and anything in the static directory,
  // or any files in the public directory.
  // ...
}
```

Sold Yet?

(Gatsby I'll happily take any sponsorship at this point)

Let's Build a Site 

Our Backend



WORDPRESS



WordPress

I assume many of you in the room know what WordPress is.

However, for those who need a recap, WordPress is an open source CMS (Content Management System).

Gutenberg

For anyone using WordPress, I assume you know what Gutenberg is;
For better or for worse.

Gutenberg is now the default content editor for WordPress.

WordPress - Gutenberg

WhatJackHasMade 0 New View Post Copy to a new draft Deploy Website Hi, Jack

Dashboard Posts All Posts Add New Categories Tags Media Pages Comments Case Study Event Inspiration Review Appearance Plugins Users Tools Settings Custom Fields Options SEO 1 Collapse menu

Owning The Business Internal Infrastructure

The more I read on strategic thinking methods and innovative thinking, the more I come across tales from successful business leaders that took responsibility of either innovative technologies or processes that were detrimental to the success of their business.

Two stories, in particular, stood out to me. One comes from an interview with CEO of Moonpig, Nick Jenkins in the book '[Demystifying Strategic Thinking: Lessons from Leading CEOs](#)'.

The second focuses on Jeff Bezos of Amazon, coming from a book called '[Velocity: The Seven New Laws for a World Gone Digitality](#)' where Ajaz Ahmed and Stefan Olander have conversations on business and strategy in the modern age.



Switch to Draft Preview Update Document Block Status & Visibility Visibility Public Publish May 31, 2019 2:21 am Post Format Standard Stick to the top of the blog Move to bin 6 Revisions Permalink URL Slug owning-the-business-internal-infrastr The last part of the URL. [Read about permalinks](#) Preview <https://wjhm.noface.app/owning-the-business-internal-infrastructure/> Categories Search Categories Discussion Marketing Meetups Experimentation Work Paintings Scanography Freebies Add New Category

HEADLESS
WORDPRESS



Headless WordPress

WordPress setups often involve a theme which provides front-end and back-end files to render webpages.

Instead, we are going to be creating custom API endpoints in our WordPress theme and importing that data to Gatsby to render pages.

Essentially using WordPress as only a backend.

Headless WordPress Endpoint

What we have in all WordPress setups (as of release 4.7.0+) -

<https://wjhm.noface.app/wp-json/wp/v2/posts/>



Advanced Custom Fields (ACF)

ACF is a must have for any WordPress developer looking to improve their themes.

ACF allows developers to add custom fields (who'd have thought?) to posts and pages on a WordPress site.

Advanced Custom Fields (ACF)

The screenshot shows the 'Edit Field Group' screen for the 'Case Study' post type in the ACF plugin. The left sidebar includes links for Dashboard, Posts, Media, Pages, Comments, Case Study, Event, Inspiration, Review, Appearance, Plugins, Users, Tools, Settings, and Custom Fields (which is selected). The main area displays a table of fields:

| Order | Label | Name | Type |
|-------|------------------|-----------------|--------------|
| 1 | Site URL * | site_url | Url |
| 2 | Gallery | gallery | Gallery |
| 3 | Intro | intro | Group |
| 4 | Device Previews? | device_previews | True / False |
| 5 | Devices | devices | Group |
| 6 | Blocks | blocks | Repeater |
| 7 | Testimonials | testimonials | Repeater |
| 8 | Related | related | Relationship |

A blue '+ Add Field' button is located at the bottom right of the field list. Below the table, the 'Location' section allows setting rules for when the field group is shown. It includes a 'Rules' section with a note about creating rules to determine which edit screens will use these fields, and a 'Show this field group if' dropdown set to 'Post Type is equal to Case Study'. An 'or' button and an 'Add rule group' link are also present. The 'Settings' section at the bottom includes an 'Active' checkbox set to 'No' and a 'Style' dropdown set to 'Standard (WYSIWYG richbox)'.

That's All of Our Backend Tech Stack 

Details to Follow

I know we've covered a few different technologies, but this talk is a step by step process.

So I will be going in to some more detail shortly.

Setting a Task

I had set myself a task, to rebuild my personal website

<https://whatjackhasmade.co.uk> 

Designs

I'm a big fan of atomic design, for anyone unfamiliar, atomic design is a concept of looking at pages and slicing them into smaller and smaller components.

Homepage



Homepage Work Insights About Services

Hire Me

AWARD WINNING WEBSITE DEVELOPER

Jack Pritchard

Our archived collection of discussions on current events and topics related to our industry. Join in the conversation and let us know what you think.

I'VE HELPED MY CLIENTS ACHIEVE THEIR GOALS AND IMPROVE THEIR BUSINESSES



What Goes In To Building Exceptional Products?

Homepage - Disected



Homepage Work Insights About Services

Hire Me

Logo

Navigation

CTA

Header

AWARD WINNING WEBSITE DEVELOPER

Jack Pritchard

Our archived collection of discussions on current events and topics related to our industry. Join in the conversation and let us know what you think.

Subheading

Heading

Paragraph

Hero

We'll Only Be Focussing on The Hero



AWARD WINNING WEBSITE DEVELOPER

Jack Pritchard

Our archived collection of discussions on current events and topics related
to our industry. Join in the conversation and let us know what you think.

Subheading

Heading

Hero

Paragraph

Development Time

So we've got our designs, now time to start Developing

WordPress

All we need to know is that we are running version 5 or above.

My WordPress environment is hosted at <https://wjhm.noface.app> on a shared hosting platform with PHP available.

WordPress Plugins - Minimum Requirements

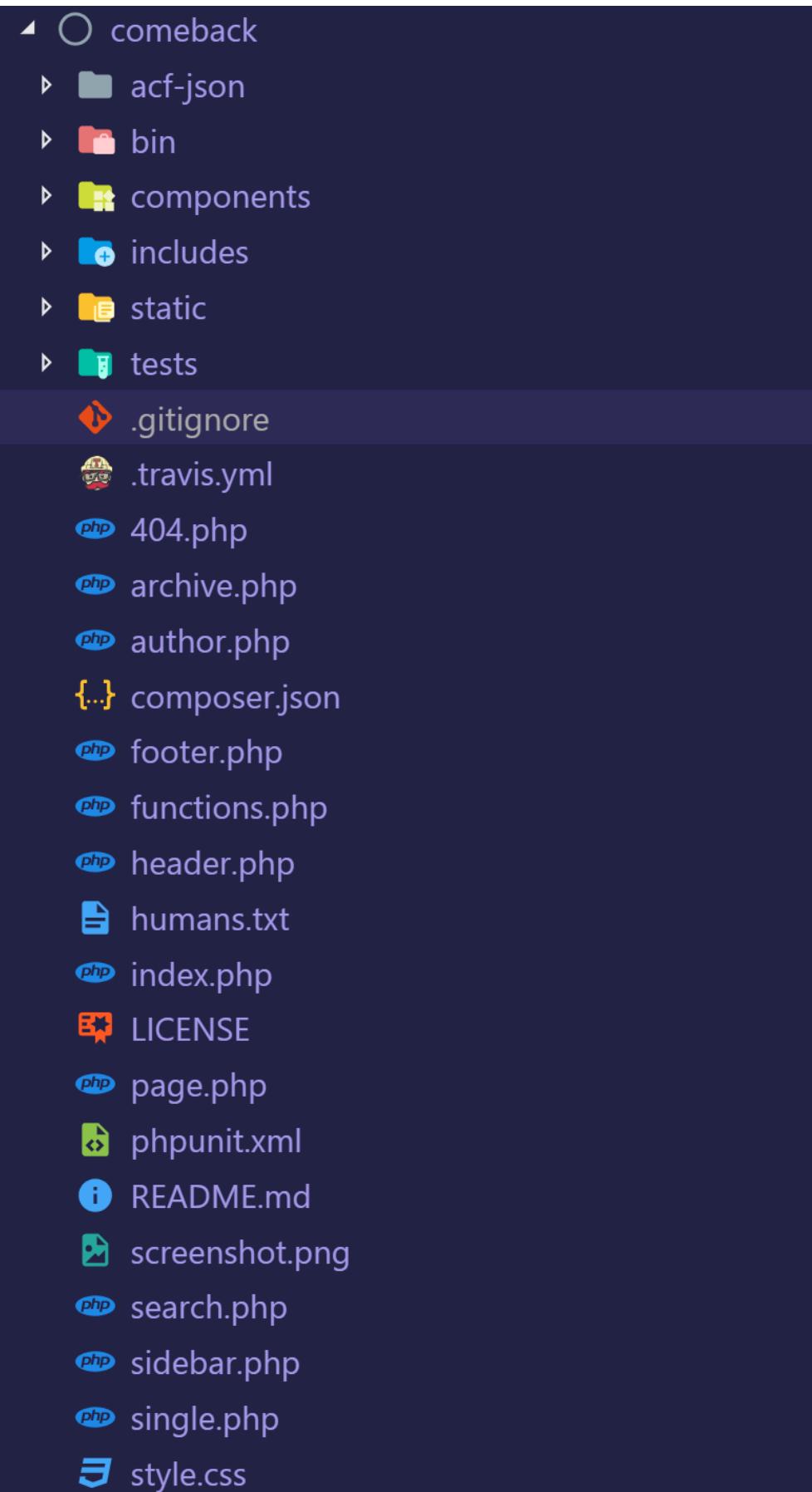
The only plugin we need to follow this process is ACF 5.8.0

WordPress Theme

To kickstart the WordPress theme, I've downloaded and installed the Timber Starter Theme.

Feel free to download my theme repository as a starting point and alter as you need to - <https://github.com/whatjackhasmade/WJHM-Wordpress-Theme>

WordPress Theme Structure



Removing Front-End Theme Files

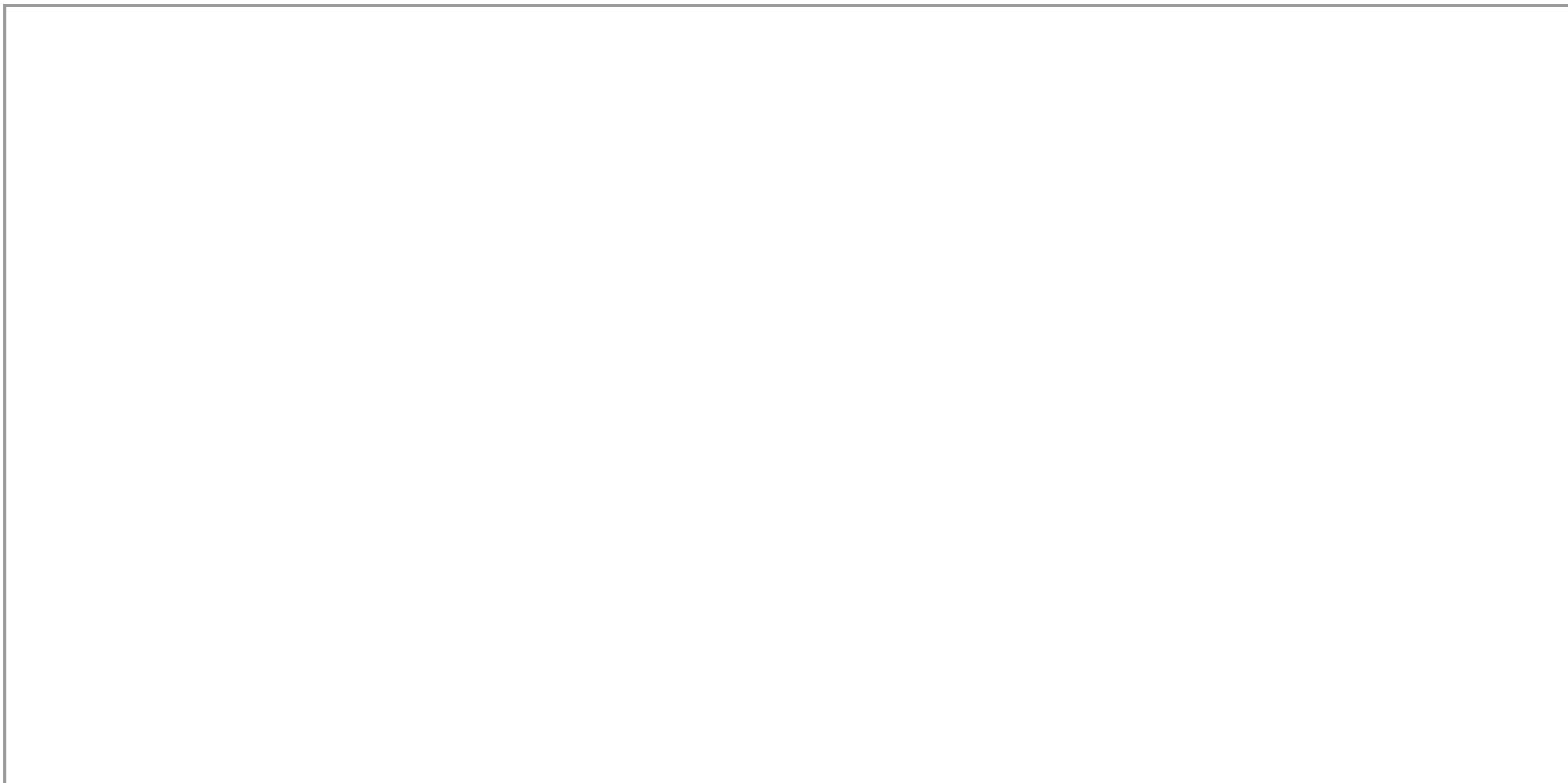
To keep focus on a Headless WordPress build, I have for this project scraped all twig file templates and their components.

WordPress Posts and Pages - WP Admin

With a fresh theme and environment, I then pulled in my local machines database full of posts and pages from my previous site.

| Posts | | | | | | |
|--|--|------------------|------------------|-----------------------------|--|-----------------------------|
| Add New | | Screen Options ▾ | | | | |
| All (244) Published (242) Drafts (2) Cornerstone content (0) | | | | | | |
| Bulk Actions ▾ | Apply | All dates ▾ | All Categories ▾ | All SEO Scores ▾ | All Readability Scores ▾ | Filter |
| <input type="checkbox"/> | Title | | Author | Categories | Tags | Date |
| <input type="checkbox"/> | Performance Matters: Adaptive Images — Draft | | Jack | Performance, Website Design | — | Last Modified 2018/11/21 |
| <input type="checkbox"/> | Return of the Jack | | Jack | Discussion | — | Published 2018/09/22 |
| <input type="checkbox"/> | What is Gutenberg? | | Jack | Discussion, Website Design | cms, content, editor, gutenberg, management, pineapple, system, tinymce, wordpress | Published 2017/09/14 |
| <input type="checkbox"/> | M E A N | | Jack | Experimentation Work | — | Published 2017/09/12 |
| <input type="checkbox"/> | ShareUp 5 – Learning and Discussions | | Jack | Discussion, Meetups | etch, Etch UK, event, events, jack, Jack Davies, local, meetup, moov2, Organise, shareup, shareup soton, soton, southampton | Published 2017/06/18 |
| <input type="checkbox"/> | How to enable WebP in WordPress | | Jack | Website Design | browser support, compression, content, Custom, editor, file, file type, google chrome, image, image compression, mce, network, network speed, plugin, support, webp, wordpress | Published 2017/06/17 |
| <input type="checkbox"/> | WebP Image Format | | Jack | Performance, Website Design | file, files, format, image, image extension, image file, image format, webp | Published 2017/06/13 |
| <input type="checkbox"/> | Compress Presentations | | Jack | Discussion | categories, compress, document, documents, download, media, pdf, pdfs, performance, powerpoint, presentation, slide, slides, speed | Published 2017/06/11 |
| <input type="checkbox"/> | 3 Common Pitfalls of Growth Hacking | | Jack | Discussion, Marketing | action, growth, growth hacking, hacking, Marketing, newsletter, promotion | Published 2017/06/09 |
| <input type="checkbox"/> | Winchester Creatives June 2017 | | Jack | Discussion, Meetups | creatives, event, events, meetup, meetups, networking, presentation, presentations, republic studio studio | Published 2017/06/06 |

This is what we're left with



WHERE THE HELL
IS OUR SITE?



Headless WordPress Endpoint

Besides an angry project manager that expected something to look at,
we have our API endpoints - [https://wjhm.noface.app/wp-
json/wp/v2/posts/](https://wjhm.noface.app/wp-json/wp/v2/posts/)

How far can you get with the existing API?

You can get pretty far in what you want to achieve with the existing API.

However, there are a few issues I have with the endpoints...

Issues with the existing API

Bloated

The endpoints were built to include as many use cases as possible, as a result, it is bloated with meta information I don't need

Issues with the existing API

Limitations

You are limited to 100 results per page (I have over 250+ blog posts I want to query without passing in several endpoints)

Issues with the existing API

Missing Data

I would love to get access to some ACF or Yoast SEO information from the endpoints but the current endpoints are currently setup without plugins in mind.

Issues with the existing API

Great for setting HTML - Not for generating

Creating Our Endpoints

Fortunately, you can hook into WordPress and create your own endpoints.

I've got a whole blog post about it on my company site -
<https://noface.co.uk/rest-endpoint-wordpress-menus>

Creating our WordPress Posts Endpoint

```
<?php
/* Register function to run at rest_api_init hook */
add_action('rest_api_init', function () {
    /* Setup siteurl/wp-json/posts/v2/all */
    register_rest_route('posts/v2', '/all', array(
        'methods' => 'GET',
        'callback' => 'rest_posts',
        'args' => array(
            'slug' => array(
                'validate_callback' => function ($param, $request, $key) {
                    return is_string($param);
                },
            ),
        ),
    ),
});
```

Before we generate our API data, we need to register the endpoint

Creating our Endpoint Content

```
<?php
function rest_posts($data)
{
    $args = array(
        'posts_per_page' => -1,
        'post_status' => 'publish',
        'post_type' => 'post',
    );
    $loop = new WP_Query($args);

    if ($loop) {
        $insightItems = array();
        while ($loop->have_posts()): $loop->the_post();
            $the_content = convert_content(get_the_content());
            $the_content = get_the_content();
            array_push(
                $insightItems, array(
                    'content' => $the_content,
                    'date' => get_the_time('c'),
                    'excerpt' => get_post_meta(get_the_ID(), '_yoast_wpseo_metadesc', true),
                    'id' => get_the_ID(),
                    'imageLargest' => get_the_post_thumbnail_url(get_the_ID(), 'largest'),
                    'imageThumbnail' => get_the_post_thumbnail_url(get_the_ID(), 'medium'),
                )
            );
        }
    }
    return $insightItems;
}
```

We're going to create the callback function we just mentioned for our rest endpoint

Custom Endpoints ❤

Old Endpoint - <https://wjhm.noface.app/wp-json/wp/v2/posts/>

Our Endpoint - <https://wjhm.noface.app/wp-json/posts/v2/all>

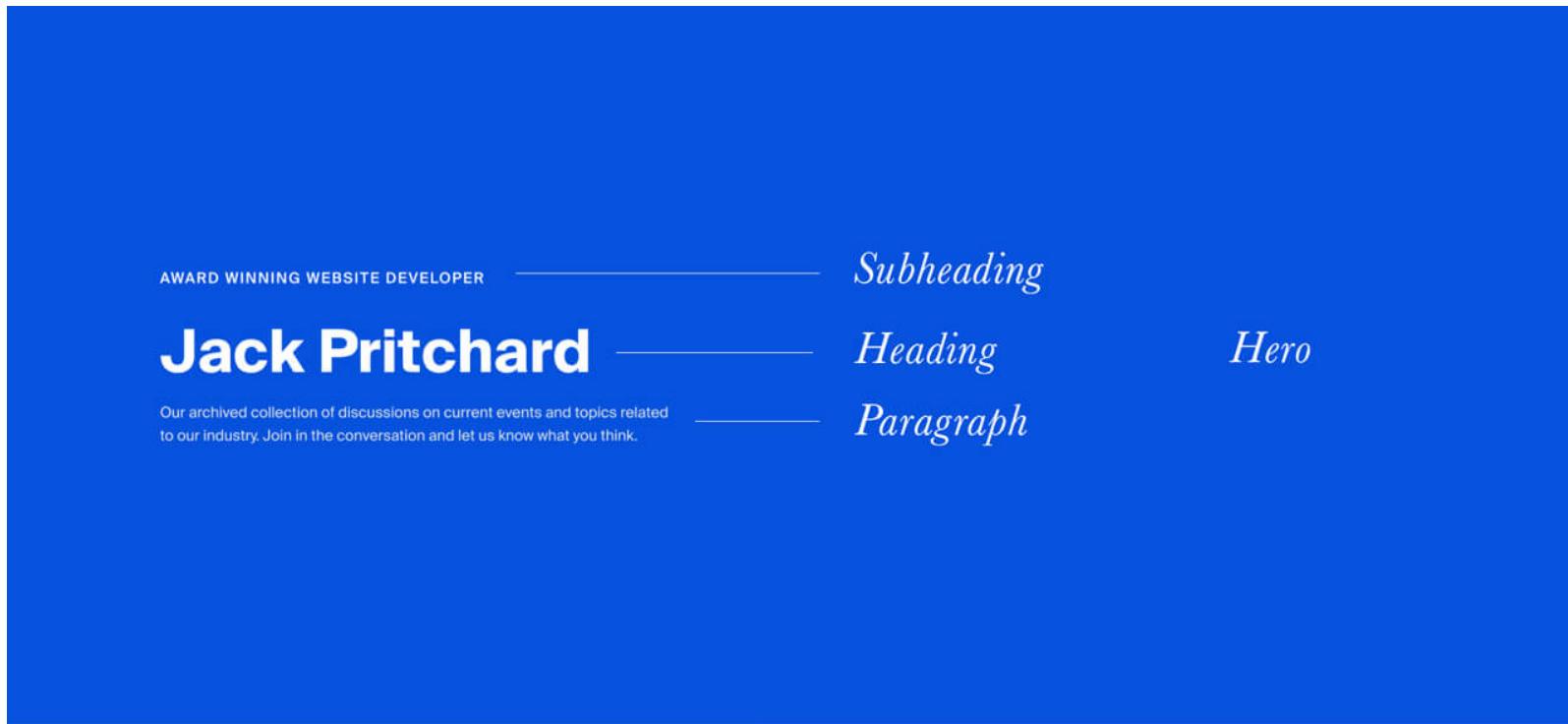
Now we have our endpoints, let's create some content

Revisiting Our Atomic Designs

Now before we go ahead and develop a building block, let's first pick the block we want to build and break it down.

One of my favourite components for a website is as mentioned, the hero component, so let's stick with that.

Atoms That Create The Hero



In the hero component we have a few parts of data that will be editable. Including the background colour, subheading, heading, and paragraph/intro.

Mapping the anatomy of the Hero

To simplify the block even further, as I am the only content editor, I am going to make the hero component require two fields.

- Background Colour (ACF - Colour Picker)
- Content (ACF - WYSIWYG)

Register the block in functions.php

The current documentation can be found at -

https://www.advancedcustomfields.com/resources/acf_register_block/

With Timber documentation on 'acf_register_block' found at -

<https://timber.github.io/docs/guides/gutenberg/>

Register the block in functions.php

I'll briefly go through my register blocks function

Register the block in ACF

WordPress to Gatsby JP WhatJackHasMade, Jack Pritchard Edit Field Group < WhatJackHasM JP WhatJackHasMade, Jack Pritchard Deploy details | optimistic-bhabh + https://wjhm.noface.app/wp-admin/post.php?post=2532&action=edit

Block: Hero

| Order | Label | Name | Type |
|-------|-------------------|-------------------|----------------|
| 1 | Content | content | Wysiwyg Editor |
| 2 | Background Colour | background_colour | Color Picker |

+ Add Field

Location

Rules

Create a set of rules to determine which edit screens will use these advanced custom fields

Show this field group if

Block is equal to Hero

or

Add rule group

Settings

Active: Yes

Style: Standard (WP metabox)

Position: Normal (after content)

Label placement: Top aligned

Instruction placement: Below labels

Order No.

Published on: 24 Mar 2020

Move to Bin

Protip: acf-json folder

Quick protip, if you are an ACF Pro plugin user, creating a folder named 'acf-json' in your theme directory will save any configurations of your custom field groups to the theme.

EXPLORER

WJHM (WORKSPACE)

- components
- node_modules
- .gitignore
- deck.mdx
- package-lock.json
- package.json
- provider.js
- README.md
- theme.js
- webpack.config.js
- yarn.lock

- comeback
- acf-json
 - group_5bf52256e07bc.json
 - group_5c97a045ac502.json
 - group_5c97a016211fa.json
 - group_5c9797e8eb903.json
 - group_5c979083e39b6.json
 - group_5c9743840ef71.json
 - group_5c9923162544f.json

deck.mdx

group_5c979083e39b6.json

```
1 {  
2   "key": "group_5c979083e39b6",  
3   "title": "Block: Hero",  
4   "fields": [  
5     {  
6       "key": "field_5c97908ba2089",  
7       "label": "Content",  
8       "name": "content",  
9       "type": "wysiwyg",  
10      "instructions": "",  
11      "required": 0,  
12      "conditional_logic": 0,  
13      "wrapper": {  
14        "width": "",  
15        "class": "",  
16        "id": ""  
17      },  
18      "default_value": "",  
19      "tabs": "all",  
20    }  
21  ]  
22}  
23
```

Push this to your online WordPress environment

With continuous integration, my new block will be registered when I deploy.

Then I simply sync the ACF changes on the live site to grab the fields it expects.

Edit Page < WhatJackHasMade — Field Groups < WhatJackHasMade

https://wjhm.noface.app/wp-admin/edit.php?post_type=acf-field-group&post_status=sync

Dashboard Posts Media Pages Comments Inspiration Journal Review Appearance Plugins 1 Users Tools Settings Custom Fields

Field Groups Add New

All (6) | Active (6) | Bin (1) | Sync available (2) | Search

| | Title | Fields |
|--------------------------|---|--------|
| <input type="checkbox"/> | Block: Dribbble group_5c97a045ac502.json | 2 |
| <input type="checkbox"/> | Block: Presentations group_5c97a016211fa.json | 2 |
| <input type="checkbox"/> | Title | Fields |

Bulk Actions ▾ Apply 2 items

Advanced Custom Fields PRO

Customise WordPress with powerful, professional and intuitive fields.

Changelog See what's new in version 5.8.0-beta3.

Resources

Website Documentation Support

Thank you for creating with ACF.

Thank you for creating with WordPress.

Version 5.1.1

The Hero Component in Gutenberg

The screenshot shows the WordPress Gutenberg editor interface. The top navigation bar includes tabs for 'Messenger', 'Edit Field Group', 'Edit Page', and 'Post'. The address bar shows the URL <https://wjhm.noface.app/wp-admin/post.php?post=2510&action=edit>. The left sidebar has a dark theme with a 'Pages' section selected, showing 'All Pages' and 'Add New' options. Other menu items include 'Comments', 'Event', 'Inspiration', 'Journal', 'Review', 'Appearance', 'Plugins (1)', 'Users', 'Tools', 'Settings', 'Custom Fields', 'Options', and 'SEO'. A 'Collapse menu' button is at the bottom. The main content area displays a 'Homepage' title and a toolbar with icons for alignment, style, and other controls. To the right, a sidebar titled 'Hero' describes it as a 'A custom hero block.' with a 'Switch to Preview' button. Below this is an 'Advanced' section. At the bottom, there are two 'Content' sections with 'Add Media' buttons and rich text toolbars.

Messenger | Edit Field Group < WhatJackHasMade | Edit Page < WhatJackHasMade — +

https://wjhm.noface.app/wp-admin/post.php?post=2510&action=edit

Dashboard Posts Media Pages All Pages Add New Comments Event Inspiration Journal Review Appearance Plugins 1 Users Tools Settings Custom Fields Options SEO Collapse menu

Homepage

Content

Add Media

b i link b-quote del ins img ul ol li code more close

```
<h4>Award-winning website developer</h4>
<h1>Jack Pritchard</h1>
<p>My primary focus is website development, specifically front-end web technology. I have experience in HTML, CSS, SCSS, JavaScript, jQuery, React, PHP, WordPress, and MySQL. Heck, this site is built with most of those!</p>
```

Search for a block

Most Used

Row Intro Draggable

Grids Hero Presentations

Common Blocks

Visual Text

solutions to solve business problems.</p>

Background Colour

Select Colour

Group

Media

Status & Visibility

Visibility Public

Publish Mar 24, 2019 8:47 am

Move to bin

46 Revisions

Permalink

Featured Image Set featured image

Discussion

Page Attributes

Parent Page: (no parent)

Order 0

Magic

It's like magic

This is something to get excited about for any and all of your WordPress projects.

Even if you aren't interested in React, Gatsby or the front-end portion of this presentation.

So far so good

We've registered our custom block and it functions nicely in our backend.

The only issue is that the block doesn't solve the problem I have when it comes to pages.

So far so good?

The blocks are great at generating HTML in our endpoints, but I don't want that, I want to generate HTML and CSS in our React application.

I want the endpoints to act as a list of ingredients, not cook the meal.

Post JSON vs. Block JSON

"content":

```
"<!-- wp:acf/hero {'id':'block_5c9791d20f725','data':{'field_5c97908ba2089':<h4>Award-winning website developer</h4><h1>Jack Pritchard</h1><p>My primary focus is website development, specifically front-end web technologies and implementing the latest frameworks to create bespoke solutions to solve business problems.</p><p>I have experience in HTML, CSS, SCSS, JavaScript, jQuery, React, PHP, WordPress, Gatsby.</p><p>Heck, this site is built with most of those!</p>'}, 'field_5c979098a208a': '#0652DD', 'field_5c9bc20dc99d0': '2626'}, 'name':'acf/hero', 'align':'full', 'mode':'edit'} /-->"
```

Post JSON vs. Block JSON

Converting the content to JSON objects

I've created the following PHP functional files -

- [get-acf-images.php](#)
- [get-acf-titles.php](#)
- [convert-the-content.php](#)

Converting the Content to JSON objects

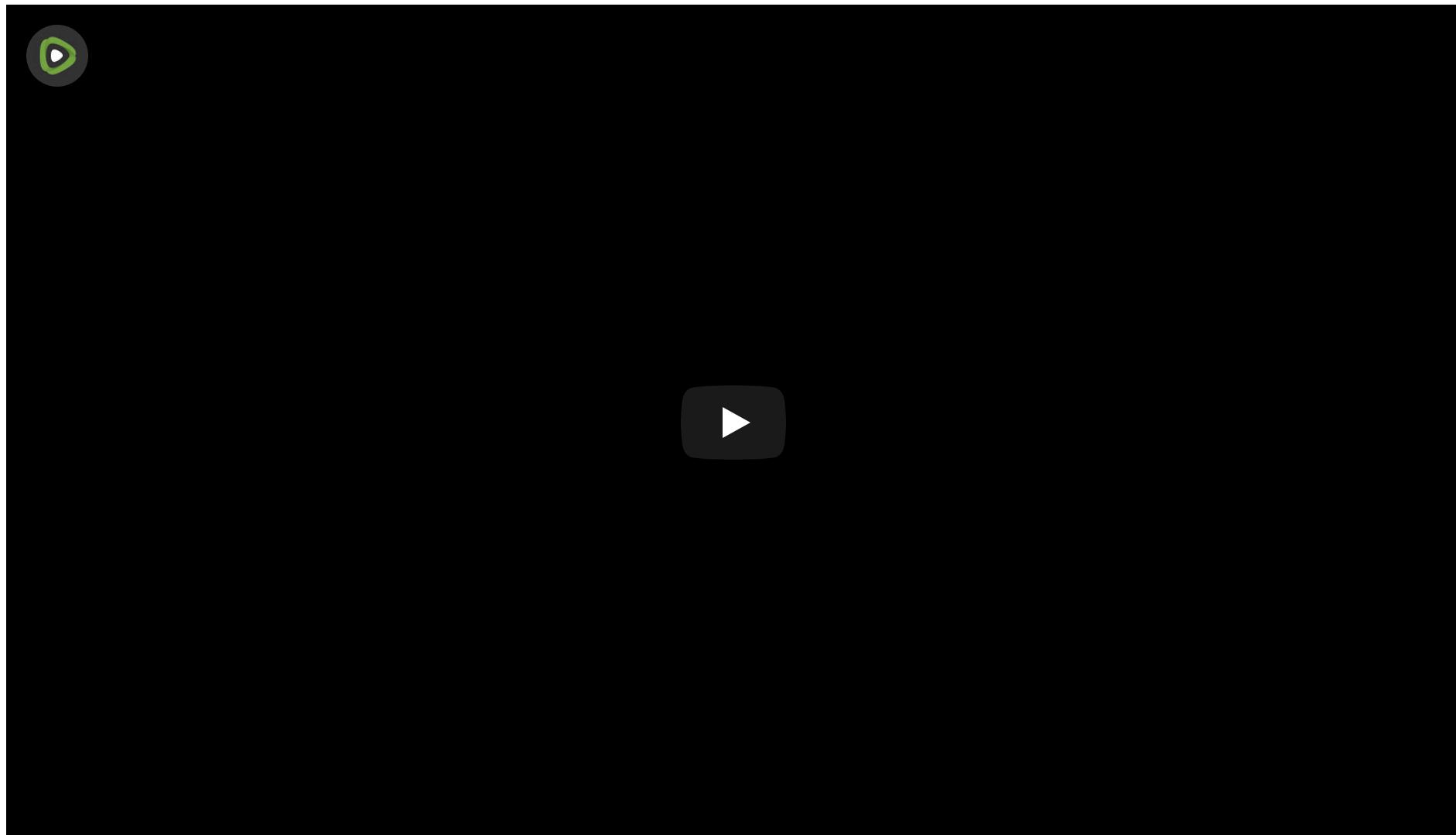
To convert the blocks into usable JSON, I rely on some custom functions and new WP functions

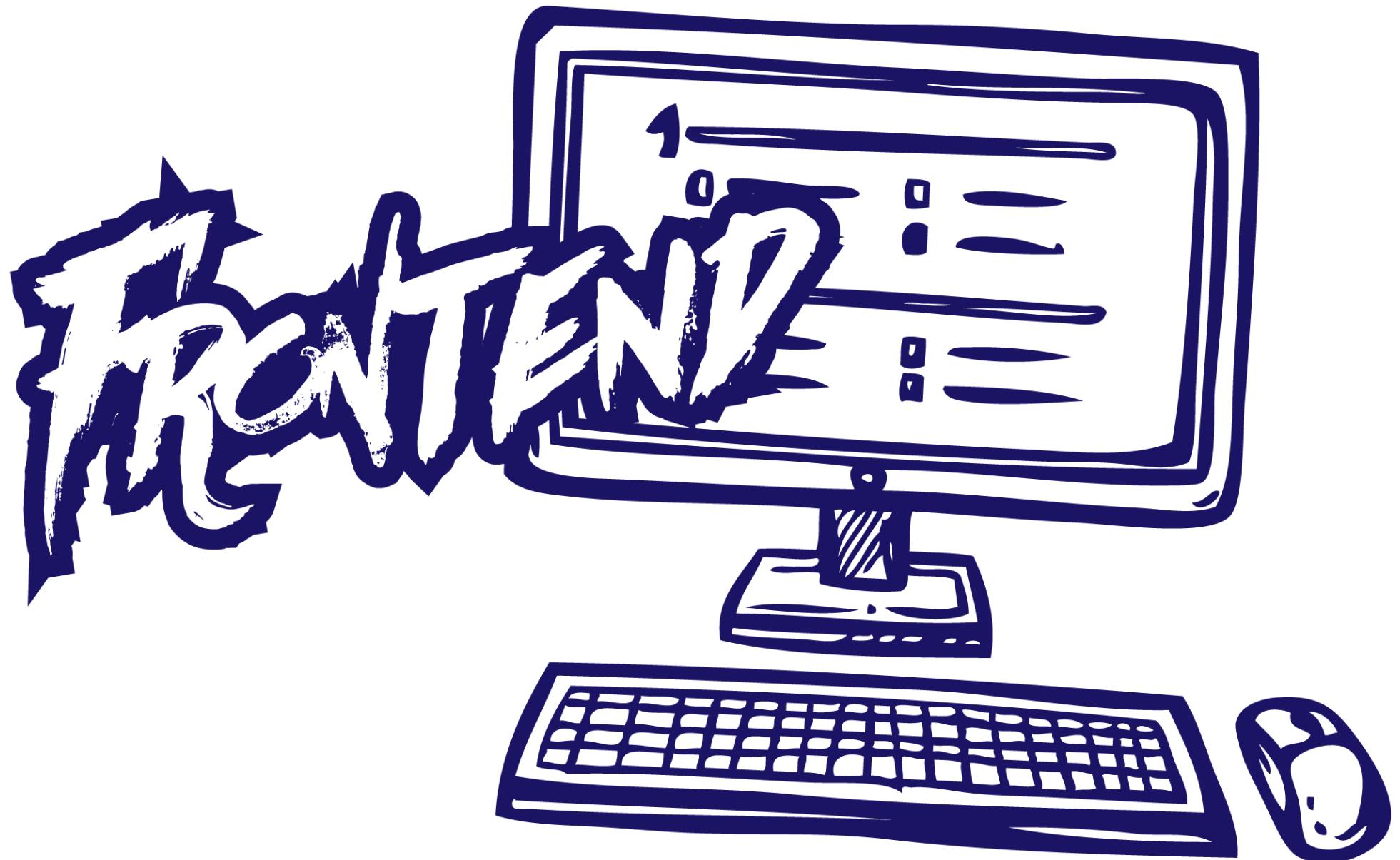
Our New Content

Backend Complete 😅

- We've got a WordPress setup ✓
- We've got a WordPress theme installed ✓
- We've got content on our site to use ✓
- We've got custom endpoints for us to use with Gatsby ✓

Time to Take 2 minutes for Questions or Heckling





Frontend

Right let's get into the front-end of the website.

Gatsby - Recap

Just to recap, the front-end will be built with Gatsby which is completely dependant on React.

Gatsby's Blog Starter

Boot up the starter

Use the Gatsby CLI to create a new site, specifying the blog starter.

```
gatsby new my-blog-starter https://github.com/gatsbyjs/gatsby-starter-blog
```

Start developing

Navigate into your new site's directory and start it up.

```
cd my-blog-starter/  
gatsby develop
```

Open the source code and start editing

Your site is now running at <http://localhost:8000>

Note: You'll also see a second link:

http://localhost:8000/__graphql.

This is a tool you can use to experiment with querying your data. Learn more about using this tool in the [Gatsby tutorial](#).

Gatsby's blog starter - Directory

```
.  
|   node_modules  
|   src  
|   .gitignore  
|   .prettierrc  
|   gatsby-browser.js  
|   gatsby-config.js  
|   gatsby-node.js  
|   gatsby-ssr.js  
|   LICENSE  
|   package-lock.json  
|   package.json  
└── README.md
```

Gatsby - Creating Pages

To create pages in Gatsby, you can either create a React component within the 'pages' directory and Gatsby will generate the component as a HTML file.

Similar to how you could create mypage.php and it would become accessible on your server.

Gatsby - Creating Pages

Alternatively we can generate pages from API sources (like WordPress endpoints ).

Gatsby Plugins

To gather the data, one of Gatsby's open source plugins can be plucked from their directory and installed via NPM and the `gatsby-config.js` file in our site root directory.

There are existing plugins for WordPress data, but most require a specific theme or setup which deviates from our setup.

So we'll create our own 😊

Creating our Gatsby WordPress plugin

```
.  
|   └── plugins  
|       └── gatsby-source-wordpress  
|           ├── gatsby-node.js  
|           ├── package.json  
|           └── yarn.lock  
└── node_modules  
└── src  
    ├── .gitignore  
    ├── .prettierrc  
    ├── gatsby-browser.js  
    ├── gatsby-config.js  
    ├── gatsby-node.js  
    ├── gatsby-ssr.js  
    ├── LICENSE  
    ├── package-lock.json  
    ├── package.json  
    └── README.md
```

Creating our Gatsby WordPress plugin

Loading the Plugin

```
module.exports = {
  plugins: [
    {
      resolve: "gatsby-source-wordpress"
    }
  ]
};
```

gatsby-config.js

Firing up our Gatsby site

To run the site, you'll need to have terminal access to the Gatsby root folder and run `yarn run dev` or `npm run dev`.

```
npm ERR! Failed at the whatjackhasmade@2.0.0 develop script.  
npm ERR! This is probably not a problem with npm. There is likely additional logging output above.  
  
npm ERR! A complete log of this run can be found in:  
npm ERR!     C:\Users\Jack\AppData\Roaming\npm-cache\_logs\2019-03-24T14_22_00_997Z-debug.log  
error Command failed with exit code 1.  
info Visit https://yarnpkg.com/en/docs/cli/run for documentation about this command.  
  
Jack@DESKTOP-U0JRG11 MINGW64 ~/Desktop/Don-t-call-it-a-comeback (master)  
$ yarn run dev  
yarn run v1.7.0  
warning ...\\package.json: No license field  
$ npm run develop  
  
> whatjackhasmade@2.0.0 develop C:\Users\Jack\Desktop\Don-t-call-it-a-comeback  
> gatsby develop  
  
success open and validate gatsby-configs - 0.009 s  
success load plugins - 0.395 s  
success onPreInit - 0.996 s  
success initialize cache - 0.007 s  
success copy gatsby files - 0.160 s  
success onPreBootstrap - 0.014 s  
success source and transform nodes - 1.841 s  
success building schema - 0.712 s  
success createPages - 0.003 s  
success createPagesStatefully - 0.087 s  
success onPreExtractQueries - 0.001 s  
success update schema - 0.016 s  
success extract queries from components - 0.237 s  
success run graphql queries - 0.027 s - 2/2 94.97 queries/second  
success write out page data - 0.014 s  
success write out redirect data - 0.001 s  
success onPostBootstrap - 0.014 s  
  
info bootstrap finished - 9.682 s  
  
DONE Compiled successfully in 4674ms 2:22:41 PM  
  
You can now view whatjackhasmade in the browser.  
  
http://localhost:8000/  
  
View GraphiQL, an in-browser IDE, to explore your site's data and schema  
  
http://localhost:8000/\_\_graphql  
  
Note that the development build is not optimized.  
To create a production build, use npm run build  
  
i [wdm]:  
i [wdm]: Compiled successfully.
```

Access to data via GraphQL

For most developers, querying data in WordPress is often done in the templating language itself via WordPress functions like `the_title();` or `get_field();`

Access to data via GraphQL

However, with Gatsby we have access to the data in a language called GraphQL.

GraphQL

To query the data Gatsby has access to, we can either pop open their friendly URL which for me is http://localhost:8000/_graphql

GraphQL

I prefer to use a tool called GraphQL Playground as it has a dark mode which helps with my vision!

RECENT

 Last opened 23.03.2019

New Workspace

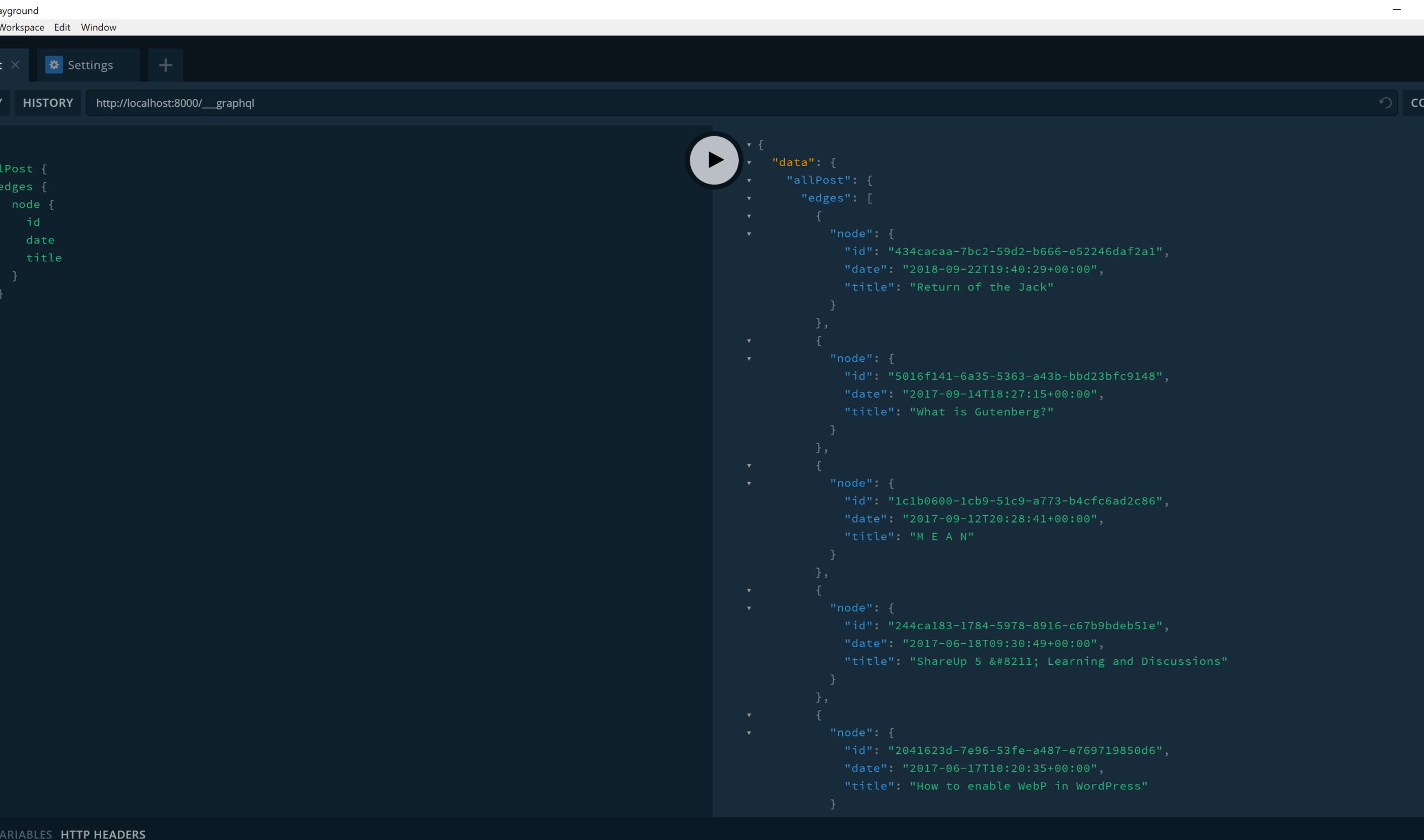
Either load a local repository with a
.graphqlconfig file, or just open a
HTTP endpoint

LOCAL

URL ENDPOINT

OPEN

My First Gatsby GraphQL Query



The screenshot shows the GraphQL playground interface with a query results panel. The query on the left is:`allPost {
 edges {
 node {
 id
 date
 title
 }
 }
}`The results on the right show a list of five posts, each with its ID, date, and title:

```
▶ {
  "data": {
    "allPost": {
      "edges": [
        {
          "node": {
            "id": "434cacaa-7bc2-59d2-b666-e52246daf2a1",
            "date": "2018-09-22T19:40:29+00:00",
            "title": "Return of the Jack"
          }
        },
        {
          "node": {
            "id": "5016f141-6a35-5363-a43b-bbd23bfc9148",
            "date": "2017-09-14T18:27:15+00:00",
            "title": "What is Gutenberg?"
          }
        },
        {
          "node": {
            "id": "1c1b0600-1cb9-51c9-a773-b4cf6ad2c86",
            "date": "2017-09-12T20:28:41+00:00",
            "title": "M E A N"
          }
        },
        {
          "node": {
            "id": "244ca183-1784-5978-8916-c67b9bdeb51e",
            "date": "2017-06-18T09:30:49+00:00",
            "title": "ShareUp 5 &#8211; Learning and Discussions"
          }
        },
        {
          "node": {
            "id": "2041623d-7e96-53fe-a487-e769719850d6",
            "date": "2017-06-17T10:20:35+00:00",
            "title": "How to enable WebP in WordPress"
          }
        }
      ]
    }
  }
}
```

At the bottom left, there are buttons for 'VARIABLES' and 'HTTP HEADERS'.

Querying Our Nodes

```
{  
  allPage {  
    edges {  
      node {  
        id  
        slug  
        title  
      }  
    }  
  }  
}
```

Pages With Queries

We now have 'nodes' that are accessible as the node type of 'Page'.

We'll be using these nodes to auto generate pages based on the JSON imported from our custom endpoints.

Generating Pages With Our Gatsby Plugin

```
exports.createPages = ({ graphql, actions }) => {
  const { createPage } = actions;
  return new Promise((resolve, reject) => {
    graphql(`
      query {
        allPage {
          edges {
            node {
              content {
                id
                align
                data {
                  background_colour
                  content
                }
                mode
                name
              }
              id
              imageXS
              imageSM
              imageMD
              imageLG
              imageXL
              imageFull
              slug
            }
          }
        }
      }
    `)
      .then(result => {
        const pages = result.data.allPage.edges.map(edge => {
          const { node } = edge;
          const { content, id, imageFull, slug } = node;
          const { align, mode, name } = content;
          const { background_colour, data } = content.data;
          const { imageXS, imageSM, imageMD, imageLG, imageXL } = content.image;
          return {
            path: `/${slug}`,
            component: require.resolve(`./src/templates/page.js`),
            context: { id, align, mode, name, background_colour, data, imageXS, imageSM, imageMD, imageLG, imageXL, imageFull },
          };
        });
        resolve(pages);
      })
      .catch(error => {
        reject(error);
      });
  });
}
```

Accessing the data via props

```
import React, { Component } from "react";
import Base from "./Base";
import ACFParser from "../particles/ACFParser";

export default class PageTemplate extends Component {
  render() {
    const { content } = this.props.pageContext;

    return (
      <Base>
        <ACFParser content={content} />
      </Base>
    );
  }
}
```

The page template first imports React and some components I've created to assist with generating the page

Sanitizing and rendering components with the data

The data itself is still simply that, data.

To process the data we need to write some functions which check what type of block is available and then render the correct React component based on that.

ACFParser block

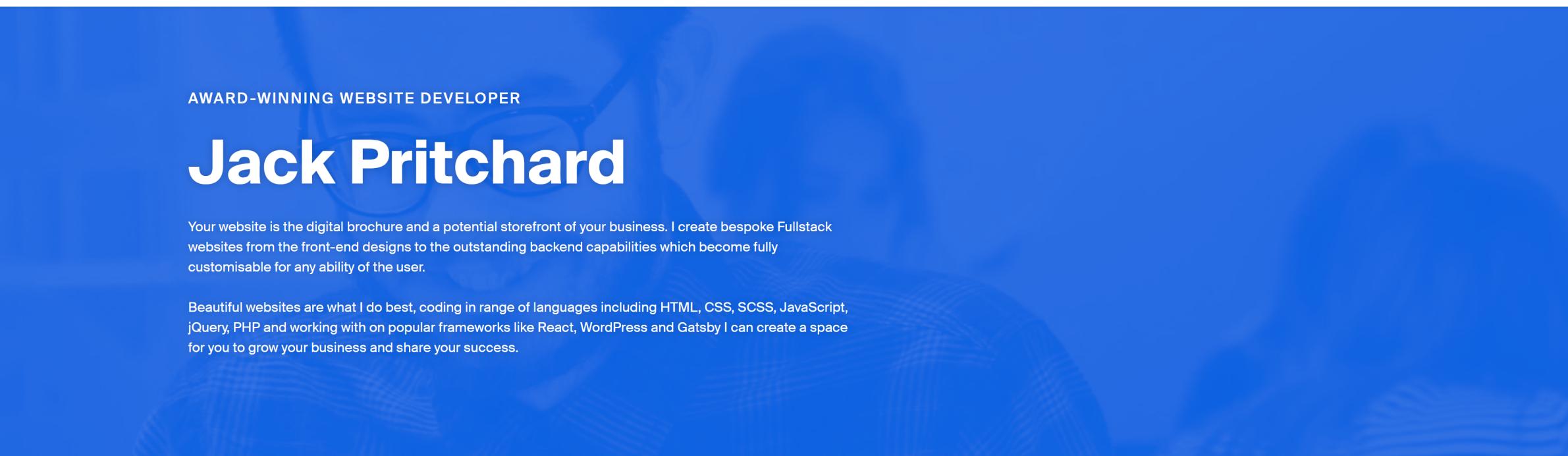
The ACF Parser component first imports React and the hero component

ACFParse block

If the parser detects the name **acf/hero** which we have in our endpoint then it will import that component with all of the layout, styles and logic related to it.

Our Hero Component

To kick things off, we import React and Styled-Components



AWARD-WINNING WEBSITE DEVELOPER

Jack Pritchard

Your website is the digital brochure and a potential storefront of your business. I create bespoke Fullstack websites from the front-end designs to the outstanding backend capabilities which become fully customisable for any ability of the user.

Beautiful websites are what I do best, coding in range of languages including HTML, CSS, SCSS, JavaScript, jQuery, PHP and working with on popular frameworks like React, WordPress and Gatsby I can create a space for you to grow your business and share your success.

Building our pages

All that is left now is to start creating content in WordPress to be digested by Gatsby.

Edit Page · WhatJackHasMade — +

https://wjhm.noface.app/wp-admin/post.php?post=2517&action=edit

Dashboard Posts Media Pages All Pages Add New Comments Inspiration Journal Review Appearance Plugins 1 Users Tools Settings Custom Fields Options SEO Collapse menu

Page updated. [View Page](#)

Add Media Visual Text

Paragraph B I “ ” [] X []

A A A A A A A A A A

Work

Background Colour

Select Colour #ff0707 Clear

Hero
A customheroblock.
Switch to Preview

Advanced

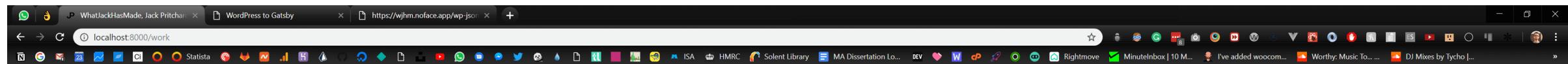
Things to be aware of

During development, Gatsby only has access to data imported on the time of `yarn run dev` or `npm run dev`.

If you create new pages or add content to WordPress, restart your local server.

Styled Components

The hero component is a great example of how it can be used effectively.



HOMEPAGE WORK INSIGHTS ABOUT SERVICES

[HIRE ME](#)



Always available for a chat

JACK PRITCHARD

07393 357520

jack@noface.co.uk



Creating Future Components

1. Register block - Functions
2. Register block - Twig (Optional)
3. Register block - ACF
4. Find and Replace - Functions
5. React Component

Hooking Netlify Up

So now we have a static site being generated. It's time to get this bad boy live for the world to see.

Hooking Netlify Up

<https://app.netlify.com/> are a great hosting solution as again it's FREE and they continuously deploy on repository changes, warn you of insecure code references (HTTP vs. HTTPS).

Hooking Netlify Up

JP





Hello World

Generate on Content Changes

<https://github.com/crgeary/wp-jamstack-deployments>

JAMstack Deployments (Settings)

General

Webhook URL

`https://api.netlify.com/build_hooks/5c9a23b3264687ae`

Your Webhook URL. See [Netlify docs](#).

Webhook Method

POST ▾

Set either GET or POST for the webhook request. Defaults to POST.

Post Types

Posts `post`

Pages `page`

Media `attachment`

Revisions `revision`

Navigation Menu Items `nav_menu_item`

Custom CSS `custom_css`

That's all folks

Thanks for letting me ramble, there may be a few points I had to trim out for the sanity of your ears, so if you have questions you want to ask, then please do and I'll try my best to answer!

Contact Information

- jack@noface.co.uk
- whatjackhasmade on all socials
- whatjackhasmade.co.uk
- noface.co.uk
- NoFace