



CLICK THE  
DAMNED BUTTON!



# JAVASCRIPT IS COMING TO EAT YOU



Citizen Tim

Electric Citizen | June 2019





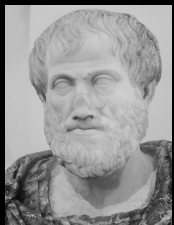
# JAVASCRIPT IS COMING TO EAT YOU



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W51H

**HOW**

How do I start?



**WHO**

Does this affect me?

**WHEN**

Now?

**WHAT**

What is it??

**WHERE**

What kinds of sites?

**WHY**

What's the point?

# HOW WE BUILD THE WEB



1994 to 2004

## **The Renaissance**

HTML, CSS, Javascript, CGI Scripts, ASP Classic, PHP, Custom CMS, Open Source CMS, Flash

# HOW WE BUILD THE WEB



2004 to 2014

## **The Industrial Revolution**

Drupal and WordPress, LAMP, Commercial CMS, JQuery/Ajax, SaaS, Cloud



1994 to 2004

## **The Renaissance**

HTML, CSS, Javascript, CGI Scripts, ASP Classic, PHP, Custom CMS, Open Source CMS, Flash

# HOW WE BUILD THE WEB



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## 2014 to Today The Technological Revolution

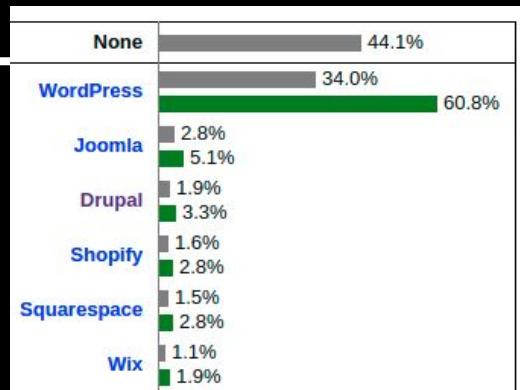
React/Angular, Decoupled Drupal, APIs, Node.js, MEAN, JAMStack, Serverless

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# Most of us are living in 2014.

And it is not a bad place to be.







- 
- 
- We enjoy a billion dollar global marketplace.
  - Innovation continues at great speed.
  - Drupal or WordPress are still the obvious choices for MOST websites.
  - None of this will suddenly disappear.
- 



Jesus Manuel Olivas Retweeted



**Nader Dabit**

@dabit3



There is a massive paradigm shift happening right now. The front & back end are rapidly moving closer & closer together, assisted by the rise of managed services & serverless tech.

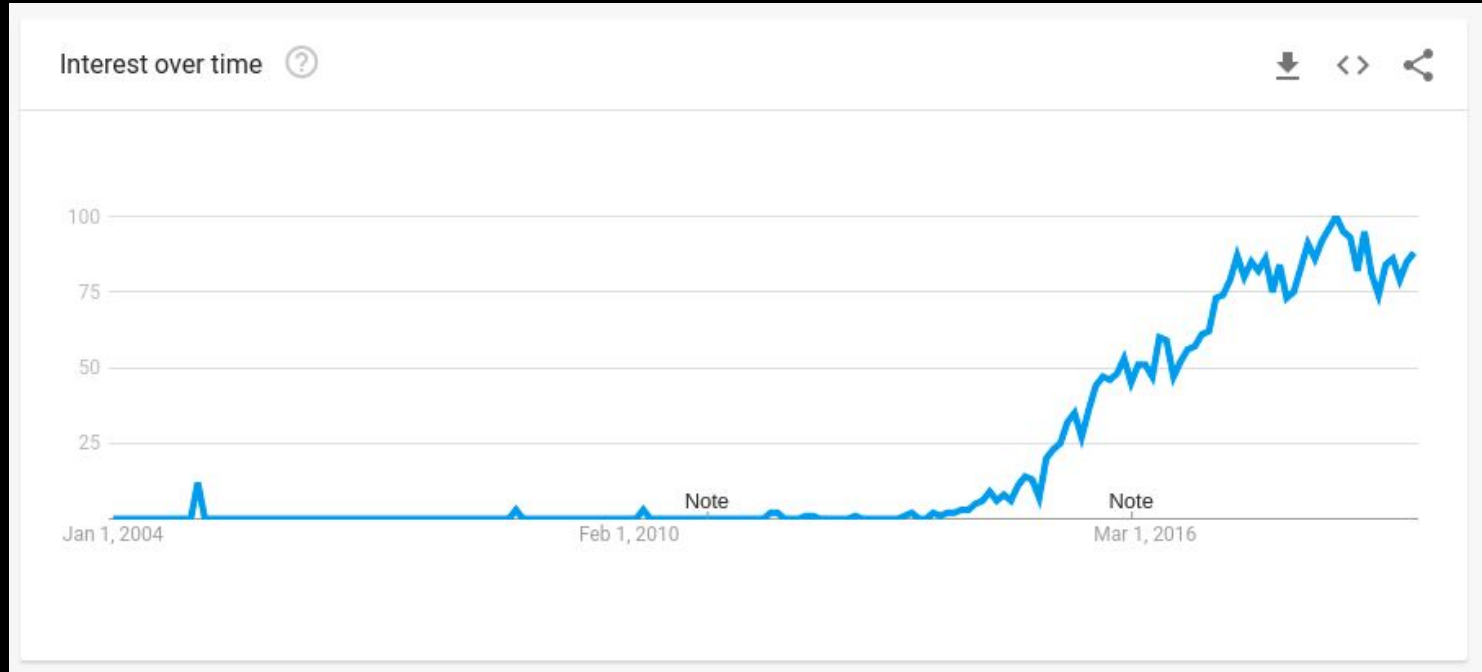
Those who acknowledge & take advantage of this will be the biggest winners in the coming years.

11:21 AM · 21 Apr 19 · [Twitter Web Client](#)

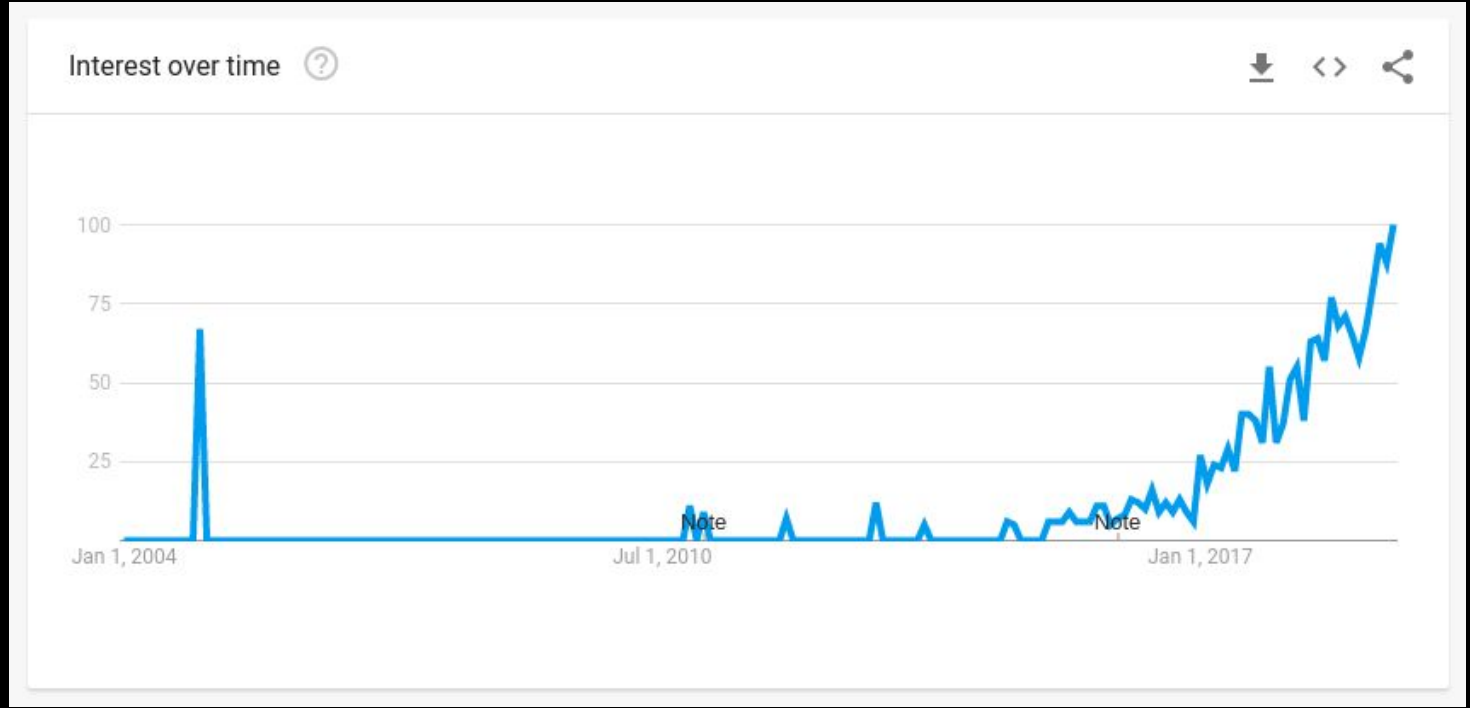
**129** Retweets **464** Likes



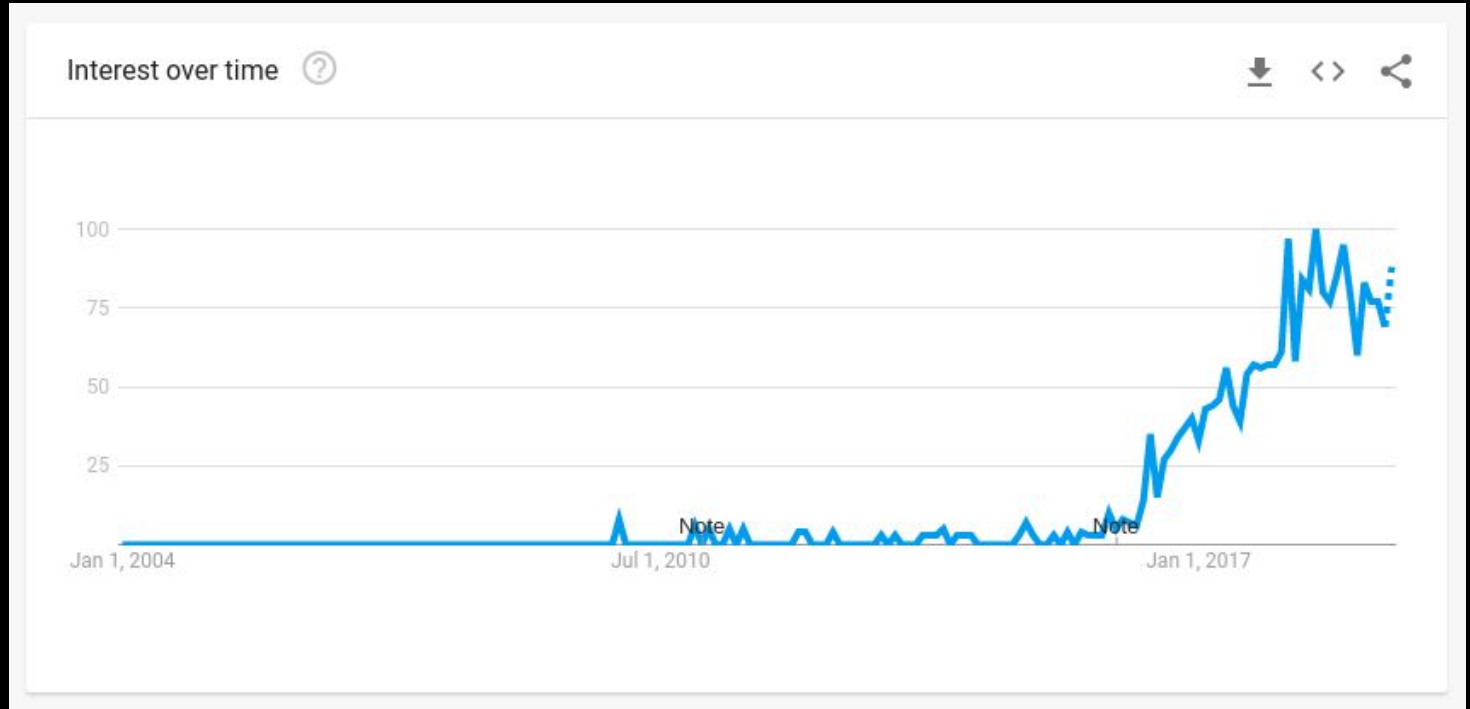
# REACT & ANGULAR | 2004 to present



# HEADLESS CMS | 2004 to present



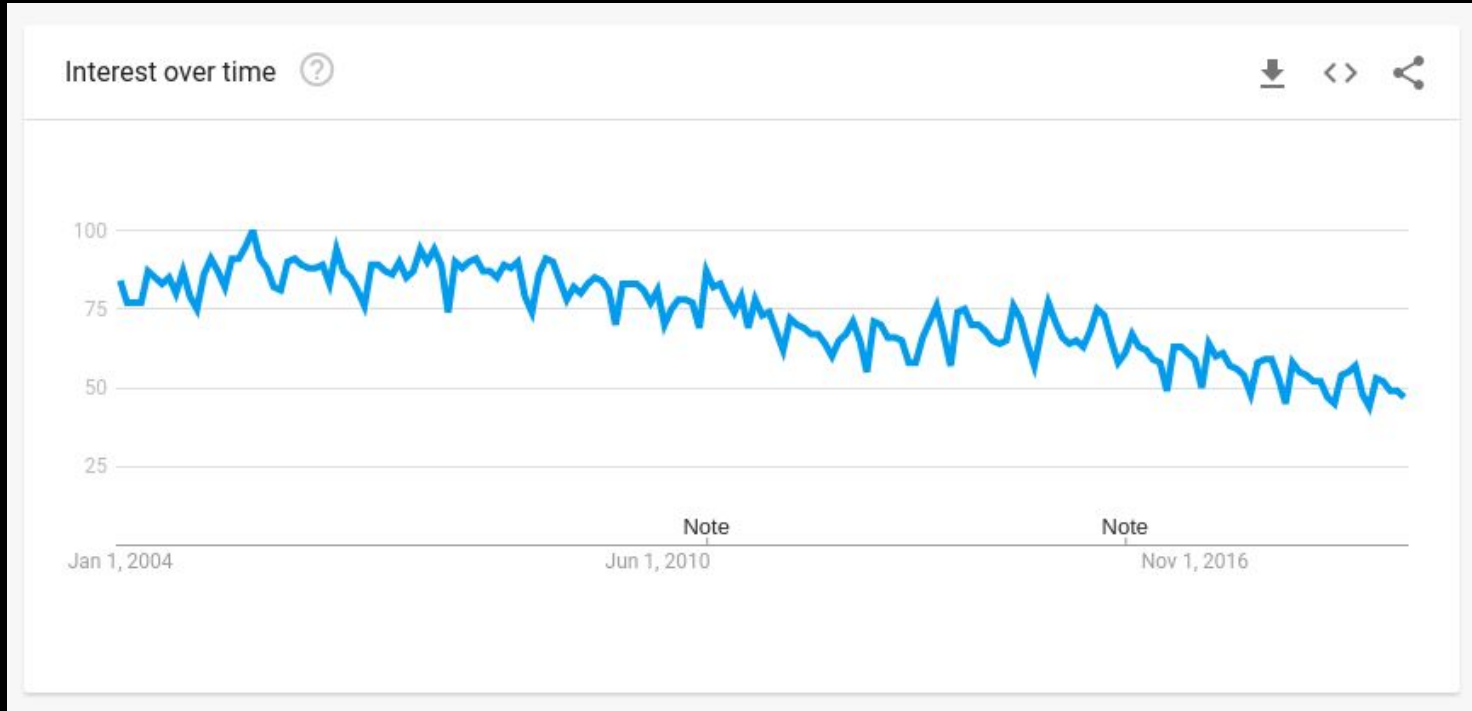
# PROGRESSIVE WEB APP | 2004 to present



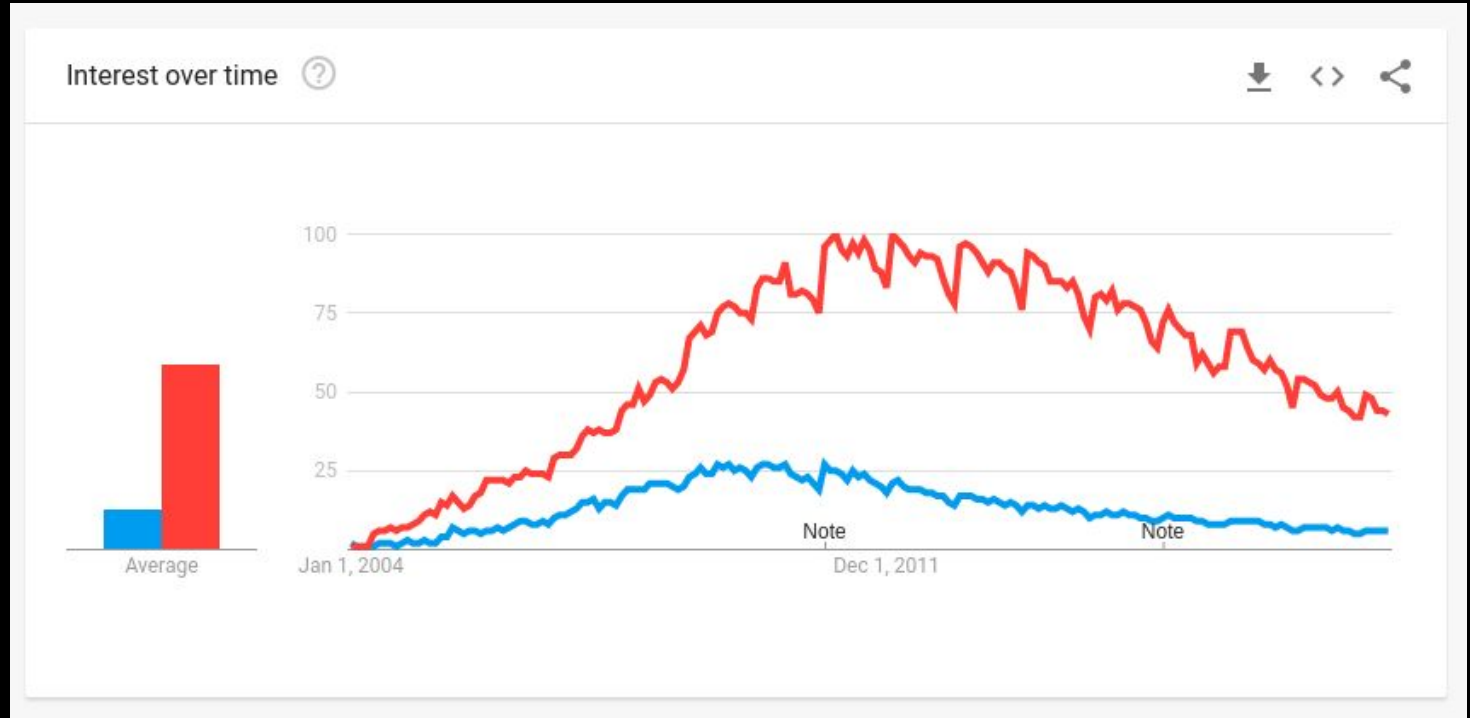
# SERVERLESS | 2004 to present



# CMS | 2004 to present



# DRUPAL & WORDPRESS | 2004 to present







“We would prefer Python, Ruby, and/or Javascript based applications. Also something like SOLR that can handle searching large data sets. **We would steer clear of Drupal.**”

— 2014

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REASON ONE

**Our tools and techniques  
WORK and they keep  
getting better.**



— 2014

---

REASON TWO

**This new stuff is COMPLICATED,  
and super hard to do correctly.**



— 2014

---

REASON THREE

**We LOSE 80% of Drupal or  
WordPress goodness.**



— 2014

---

REASON FOUR  
**This stuff is EXPENSIVE**  
(and clients can barely  
afford Pantheon.)



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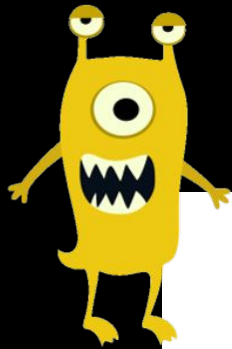
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**These are all perfectly  
valid, reasonable, and  
REAL reasons.**



---

# And yet.



Adobe Dreamweaver

FrontPage

0.4%

0.7%

0.3%

0.5%

---

---

OPTION A  
**Stay the course.**

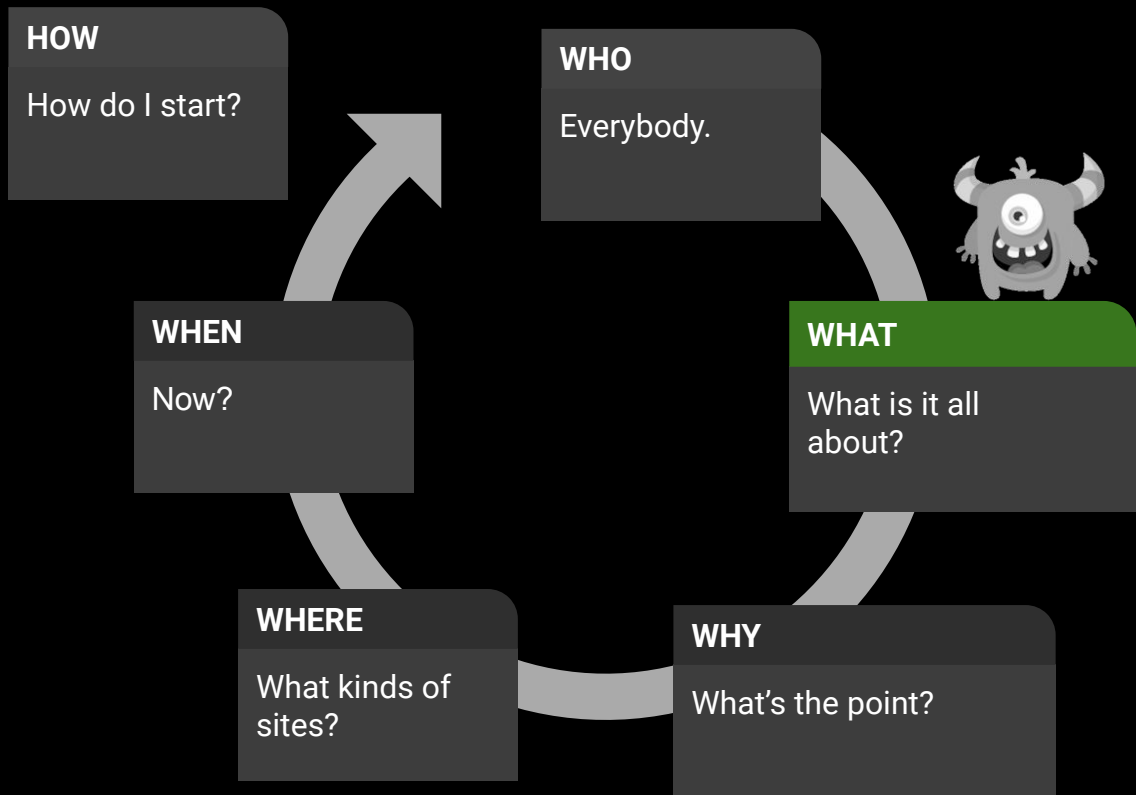
OPTION B  
**Adapt.**

---





# W51H





**MONOLITHIC CMS**

**VS**

**MANAGED SERVICES**

**MODULAR SYSTEMS**

**MICROSERVICES**

**CONTENT MESH**

---



## Content Management

Landing pages, news, events



## Custom applications

Databases, tools



## Integrations

APIs, migrations, importers, exporters



## Membership/CiviCRM

Customizations, roles, reporting



# MONOLITHIC CMS



Web server  
Database server  
CDN



Adobe Experience Manager



sitecore



WORDPRESS



Drupal



SQUARESPACE



WIX



shopify



Frontend website!  
HTML, JS, Twig



## Customization

Customize all the things



## Commerce

Sell, sell, sell!



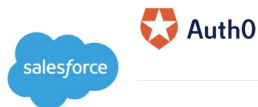
## Search

Search API, Solr



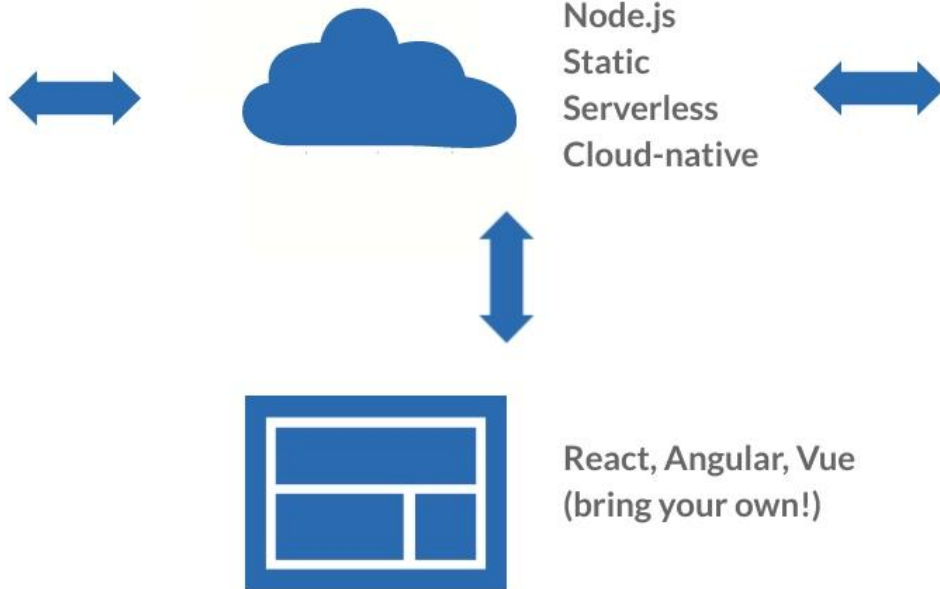
## Forums and galleries oh my

All the things!



# MANAGED SERVICES

aka the "content mesh"



Static files  
Markdown



Custom APIs  
SaaS APIs

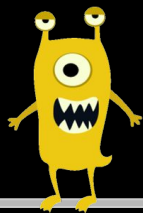


Custom DBs  
Mongo/SQLite



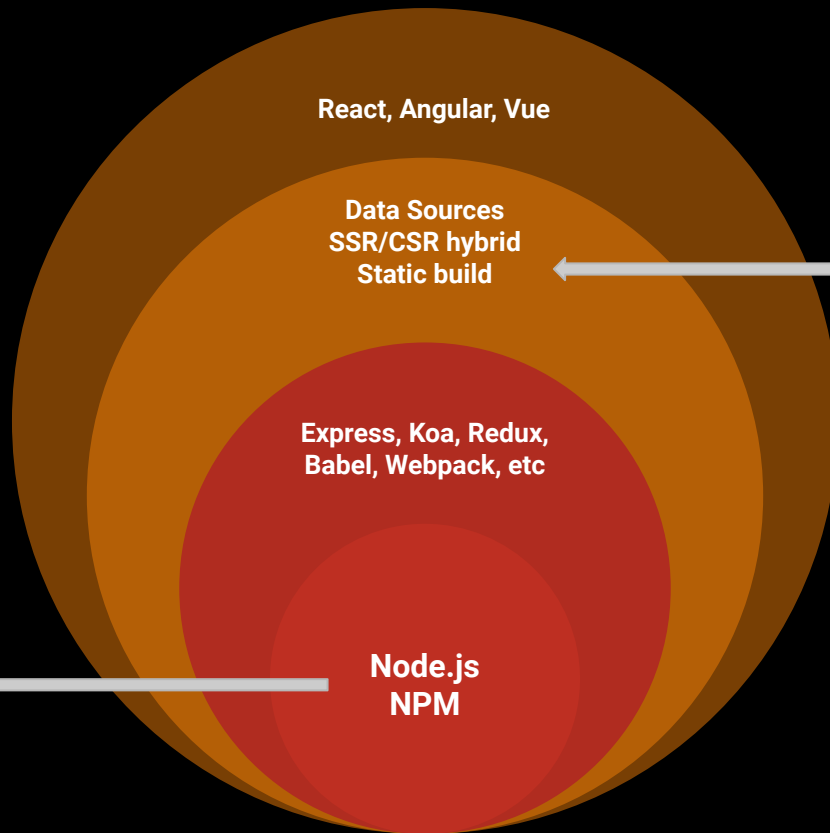
JSON  
XML/CSV





JavaScript  
TypeScript  
ECMAScript/ES

  
NODE  
SERVER



React, Angular, Vue

Data Sources  
SSR/CSR hybrid  
Static build

Express, Koa, Redux,  
Babel, Webpack, etc

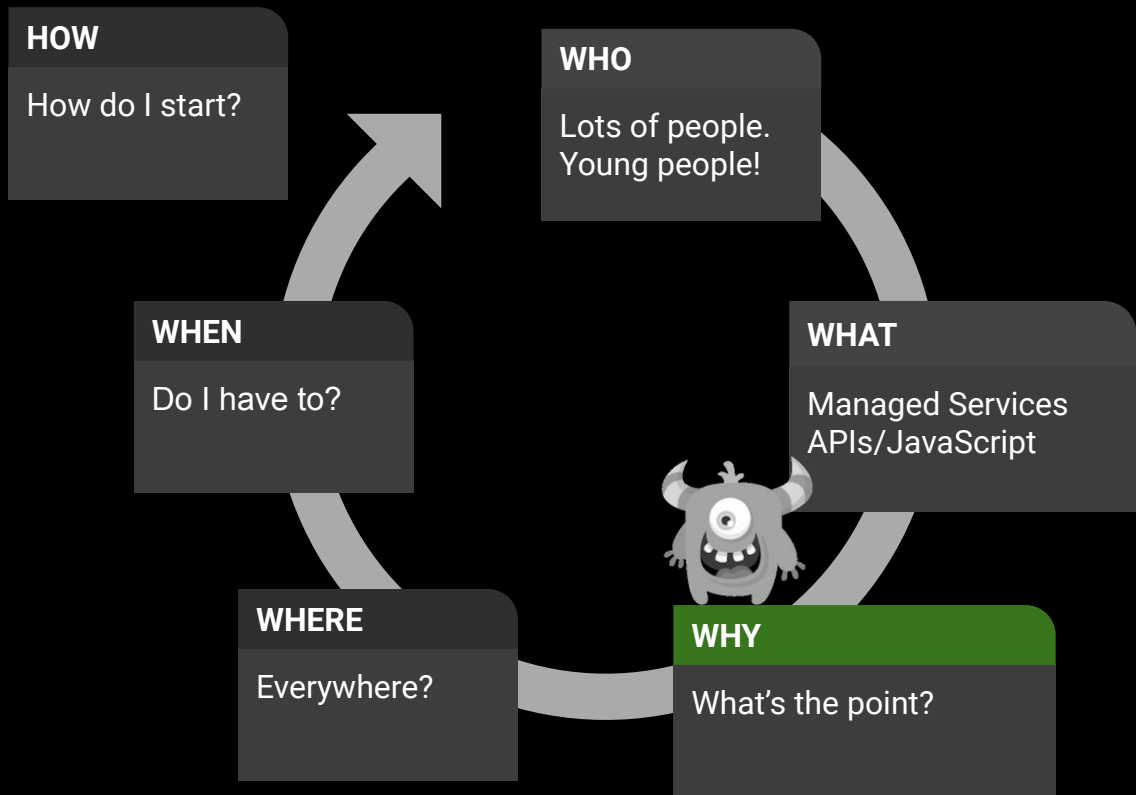
Node.js  
NPM

CaaS  
Drupal/WordPress  
Managed Services (APIs)  
XML/JSON/CSV  
Microservices

    
DB DB DB

    
SERVER SERVER SERVER

# W51H



# WHY??



1

SPEED

MONOLITH

NODE



- Code splitting, critical rendering
- SSR/Static Rendering



2

FLEXIBILITY



- Data agnostic
- Right tool for right job



3

USER EXPERIENCE



- Faster UX
- Better UX



4

DEVELOPER  
EXPERIENCE



- One stack rules all
- NPM/Hot reload/Components



5

COST



- Development/Support
- Infrastructure

# W51H

## HOW

How do I start?

## WHO

Lots of people.  
Young people!

## WHEN

Do I have to?

## WHAT

Managed Services  
APIs/JavaScript

## WHERE

Everywhere?

## WHY

Better, smarter, faster.





# — WHERE? —

---

## WEBSITES

Simple websites  
Average websites  
Complex websites



## WEB APPS

Facebook, Airbnb,  
Instagram, Netflix,  
Countless others



## MOBILE APPS

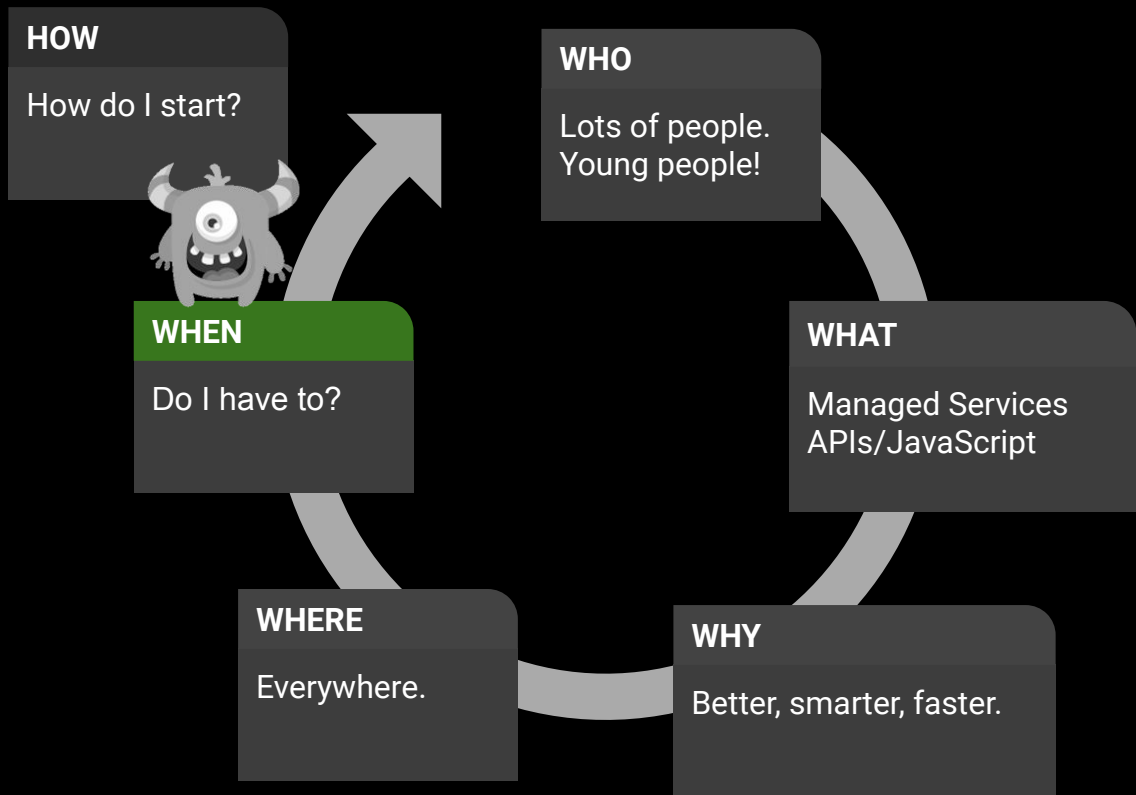
Instagram/FB  
Bloomberg  
Walmart etc.

**All websites are applications.  
All applications are websites.**

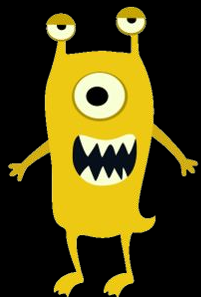


**Don't forget the  
Internet of Things!**

# W51H



# — WHEN?



# HOW WE BUILD THE WEB



2014 to Today

**Technological Revolution: Early days**

React/Angular, Decoupled Drupal, APIs, Node.js, MEAN, JAMStack, Serverless



Today to 2024

**Technological Revolution: Liftoff**

Better approaches, better tooling, better infrastructure  
Easier paths forward



2024 to 2034

**Technological Revolution: Natural Order**

Continuous improvements  
Iterations



## HOW

How do I start?

## WHO

Lots of people.  
Young people!

## WHAT

Managed Services  
APIs/JavaScript

## WHY

Better, smarter, faster.

## WHERE

Everywhere.

## WHEN

Now.

# W51H

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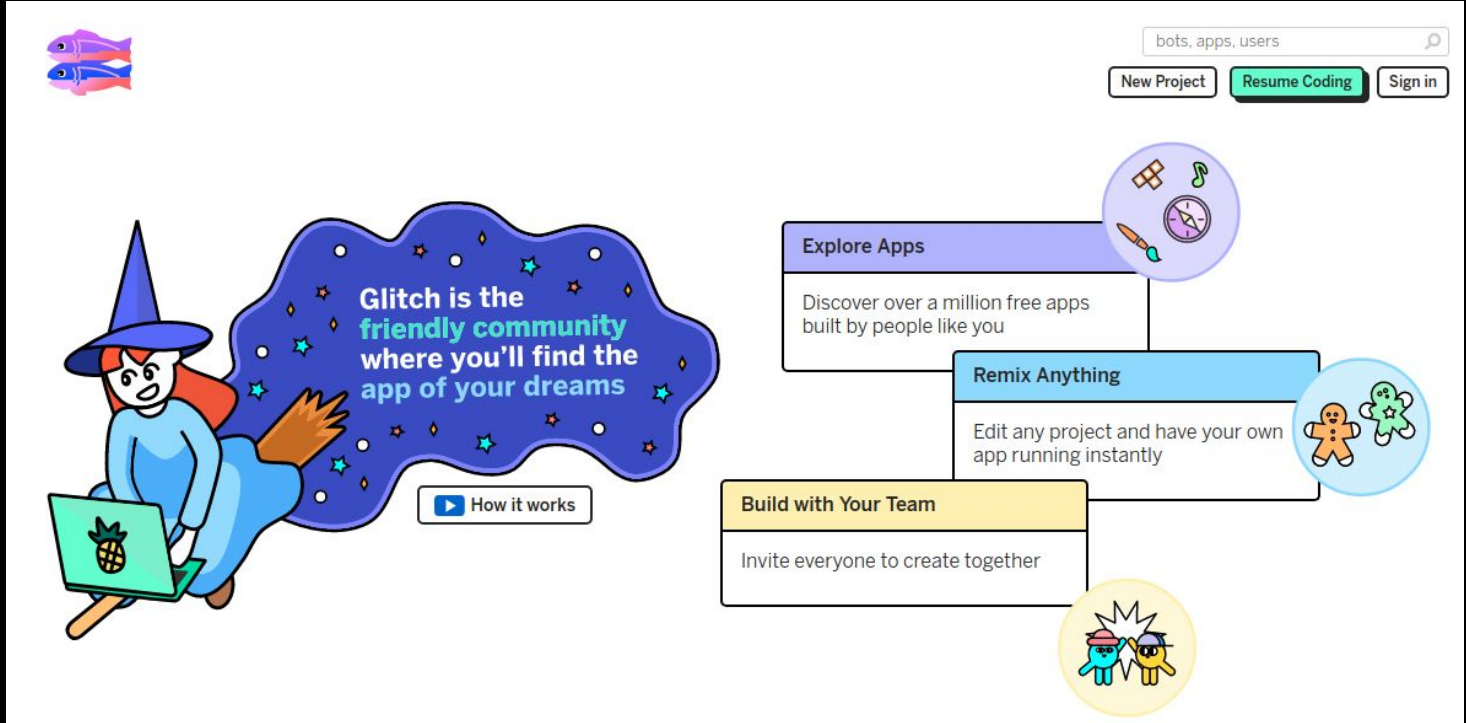
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# Resources and Reading

<https://tinyurl.com/tcdc2019>



# – GLITCH



The image shows the Glitch website landing page. At the top left is a logo of two fish. At the top right is a search bar with the text "bots, apps, users" and a magnifying glass icon. Below the search bar are three buttons: "New Project", "Resume Coding" (highlighted in green), and "Sign in".

On the left side, there is a cartoon illustration of a witch with red hair, wearing a blue robe and a blue pointed hat, sitting on a broomstick and using a laptop. The laptop screen shows a pineapple icon. To the right of the witch is a blue, cloud-like shape with stars and the text: "Glitch is the **friendly community** where you'll find the app of your dreams". Below this text is a button with a play icon and the text "How it works".

On the right side, there is a vertical stack of three boxes, each with a title and a description, connected by a line. The top box is purple and titled "Explore Apps", with the description "Discover over a million free apps built by people like you". The middle box is light blue and titled "Remix Anything", with the description "Edit any project and have your own app running instantly". The bottom box is yellow and titled "Build with Your Team", with the description "Invite everyone to create together".

Each box has a circular icon to its right. The "Explore Apps" box has an icon with a paint palette, a pencil, and a compass. The "Remix Anything" box has an icon with two gingerbread men, one orange and one green. The "Build with Your Team" box has an icon with two cartoon characters, one blue and one yellow, holding hands.



— Go! —

<https://glitch.com/~hello-gatsby>

<https://codesandbox.io/s/new>

<https://www.sanity.io/create>









## The best JSON:API implementation in existence

The JSON:API module for Drupal is almost certainly the most feature-complete and easiest-to-use JSON:API implementation in existence.

The Drupal JSON:API implementation supports *every* feature of the JSON:API 1.0 specification out-of-the-box. Every Drupal entity (in JSON:API terminology) is automatically made available. Existing access controls for both reading and writing translations and revisions of entities are also made available. Querying entities (*filtering resource collections* in JSON:API terminology) is possible without any configuration (e.g. setting up a query). This means front-end developers can get started on their

```
// 20190606144854
// http://dev-mtcv.pantheon.site.io/jsonapi/node/page
{
  "jsonapi": {
    "version": "1.0",
    "meta": {
      "links": {
        "self": {
          "href": "http://jsonapi.org/format/1.0/"
        }
      }
    }
  },
  "data": [
    {
      "type": "node--page",
      "id": "4e4028d5-8b4e-458b-8320-22fb2a01771a",
      "attributes": {
        "drupal_internal__nid": 2,
        "drupal_internal__vid": 52,
        "langcode": "en",
        "revision_timestamp": "2019-05-28T20:27:28+00:00",
        "revision_log": null,
        "status": true,
        "title": "Safe Browsing",
        "created": "2019-05-12T17:41:59+00:00",
        "changed": "2019-05-28T20:27:28+00:00",
        "promote": false,
        "sticky": false,
        "default_langcode": true,
        "revision_translation_affected": null,
        "path": {
          "alias": "/safe-browsing",
          "pid": 1,
          "langcode": "en"
        }
      }
    }
  ]
}
```

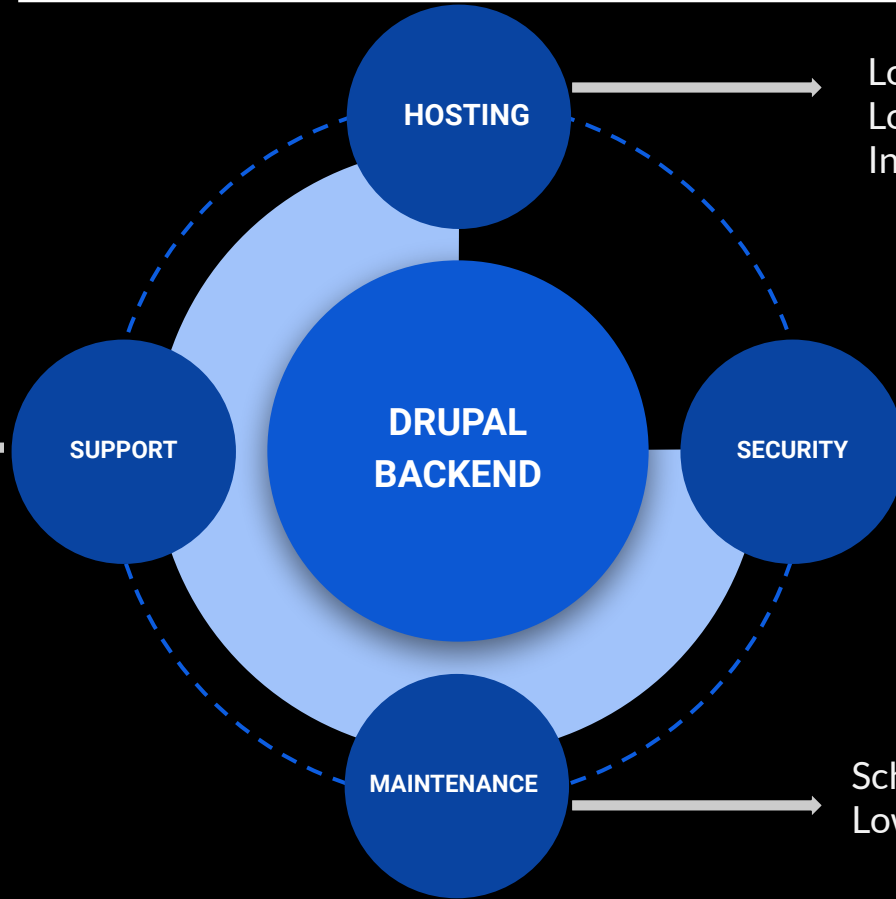


# /jsonapi

CAN I USE IT??	YES	NO!
VIEWS		
TWIG		
LAYOUT BUILDER		
CONTRIB MODULES		
WEBFORMS		
SEARCH API		
CONTENT TYPES		
ENTITY REFERENCES		
PARAGRAPHS & MEDIA		
TAXONOMY		
WORKFLOW & SCHEDULING		
JSON API		



Different?



HOSTING

Low Cost  
Low Power  
Inexpensive\*

SECURITY

Behind HTTP  
Powered down?

MAINTENANCE

Scheduled  
Low impact

SUPPORT



## Pay as You Grow

[Talk to us](#)[Try for free](#)

We offer spaces for all types of use cases, from single page apps, to campaign websites, mobile apps, etc. Below are some of our more popular ones.



### MICRO SPACE

For teams working on single-purpose sites, mobile apps and IoT

1 sandbox environment, plus

1 role

2 locales

24 content types

5,000 records

\$39 / month



### LARGE SPACE

For teams shipping complex apps and working with multilingual content

5 sandbox environments,  
GraphQL API, plus

4 roles

10 locales

48 content types

50,000 records

\$879 / month

### ENTERPRISE-GRADE SPACES

[LOG IN](#)[TRY FOR FREE](#)[CONTACT US](#)

### BASIC

Value pack for small apps or static sites

\$49  
per project / month

[START A FREE TRIAL](#)

Users	10
Stages	1
Locales	1
Roles	4
Records	∞

Basic includes:



### STANDARD

Perfect for complex apps and multilingual content

\$149  
per project / month

[START A FREE TRIAL](#)

Users	20
Stages	2
Locales	4
Roles	4
Records	∞

All from Basic, plus:



### PROFESSIONAL

For organizations that want to be in full control

\$499  
per project / month

[START A FREE TRIAL](#)

Users	50
Stages	3
Locales	10
Roles	∞
Records	∞

All from Standard, plus:



### ENTERPRISE

For teams with big ideas and paramount expectations

Custom pricing tailored to  
your requirements

[TALK TO SALES!](#)

- ✓ All Features
- ✓ Custom Limits  
Be it the number of users or API operations. We've got you covered.
- ✓ Unparalleled Performance  
Enterprise-grade infrastructure managed by our team of experts.
- ✓ SLA-Guaranteed Uptime  
Availability is monitored by our engineers and we guarantee a minimum of 99.9% uptime.



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# React

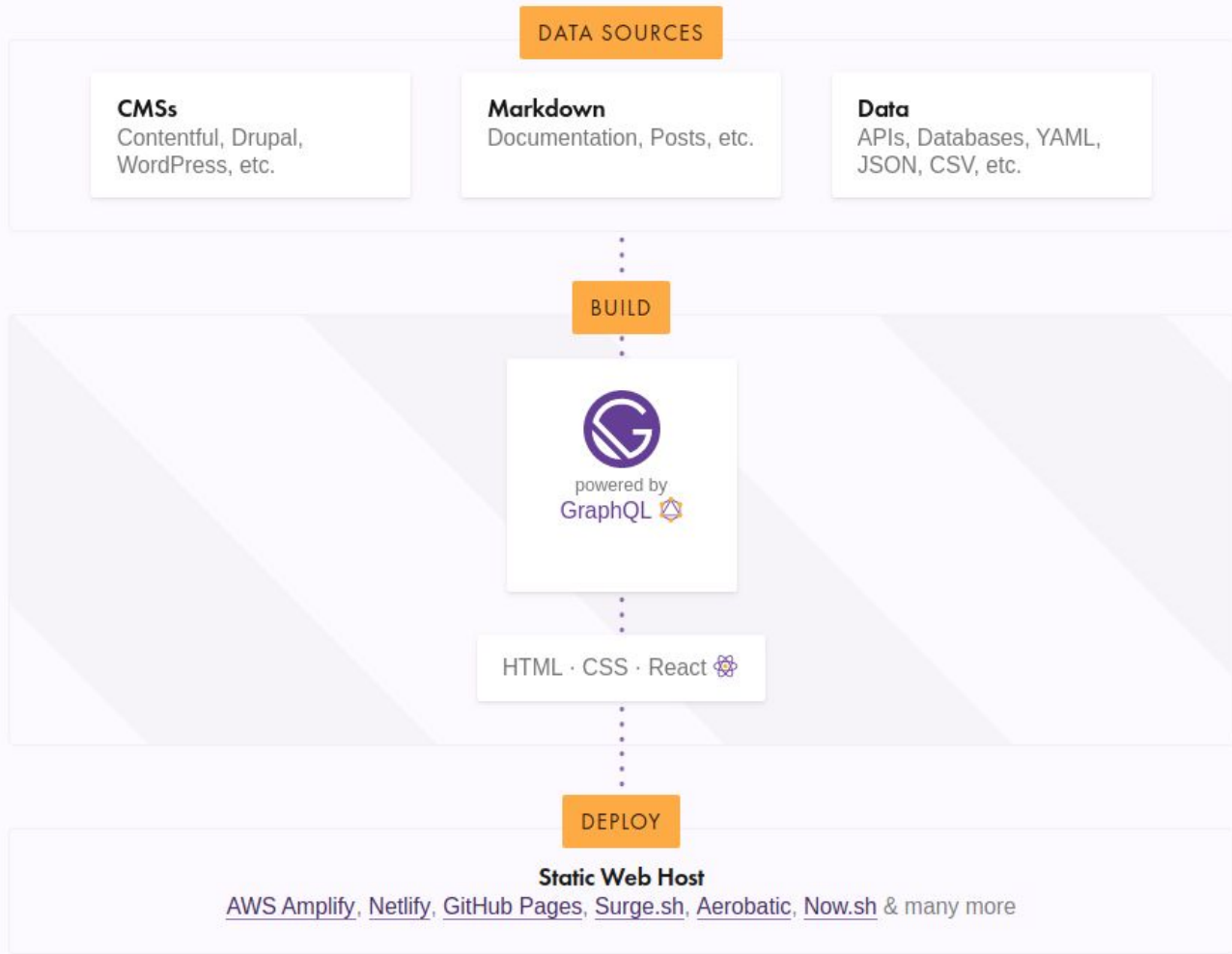
A JavaScript library for building user interfaces

Get Started

Take the Tutorial >



# Meet Gatsby!





# The React Framework for Server-Rendered Apps

See Showcase

License: MIT [View Docs](#) [GitHub](#)



---

“I would never build  
anything in React **without**  
**choosing Next or Gatsby.**”

Wes Bos, Feb. 2019



**JAMstack:** noun \ 'jam-stak' \

Modern web development architecture based on client-side JavaScript, reusable APIs, and prebuilt Markup.







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