

# WHAT, WHY AND HOW TO JAMSTACK

**PHIL HAWKSWORTH**



# STACKS FOR DAYZ

AN / LAMP / MAMP / XAMP / ROR / WISA / MEAN

WISA / MEAN / LAMP / MAMP / XAMP / ROR /

# *jamstack*

**JAVASCRIPT / API / MARKUP**

# @PHIL HAWKSWORTH


HEAD OF DEVELOPER RELATIONS,  
NETLIFY



# TEN YEARS

# FINDTHAT.AT/THEPAST

<http://archive.upcoming.org/event/oxford-geek-night-12-2434146>

 The Upcoming.org Archives

## Oxford Geek Night #12 May 27, 2009

[Jericho Tavern](#)  
56 Walton Street  
Oxford, England OX2 6AE

The geek nights are a way for local web developers, designers, programmers, neophiles or geeks of any other stripe to get together, chat, drink and listen to talks on new technologies and innovations.

== Keynotes ==

Our confirmed keynotes for OGN actually consist of a single topic, shared between three speakers:

\* The webs are made of messages, by Alexis Richardson, CEO of Rabbit Technologies; Matt Biddulph, CTO of Dopplr; and Blaine Cook, from BT Osmosoft.

== Microslots ==

These are five-minute "lightning" talks that anyone can volunteer for. They're easy to do: pick something that excites you, or a project you've worked on that you think might be of interest; then talk to a friendly audience for just five minutes with a handful of slides. Submit your microslot and we'll see you on the night!

<http://findthat.at/for-oxford-geek-night-12-2434146/>

**Interested** 27

[adam.hopkinson](#)  
[alpower](#)  
[anupj](#)  
[bwerdmuller](#)  
[cgcenet](#)  
[charlton\\_b](#)  
[danw](#)  
[delineator](#)  
[drewbenvie](#)  
[garrettc1](#)  
[gelin](#)  
[iolande](#)  
[Jazza](#)  
[jp.stacey](#)  
[mapkyca](#)  
[Matt Carey](#)  
[Matt.t](#)  
[Mike Robinson](#)  
[oleg](#)  
[petef](#)  
[PhilHawksworth](#)  
[Phillie Casablanca](#)  
[platform3](#)  
[psd](#)

# FINDTHAT.AT/THEPAST

<http://archive.upcoming.org/event/oxford-geek-night-12-2434146>

Oxford Geek Night #12 - Upcoming

Not Secure | archive.upcoming.org/event/oxford-geek-night-12-2434146

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<http://natbat.wufoo.com/forms/oxford-geek-night-microslot-proposal/>

Currently confirmed microslots:

- \* The importance of being unobtrusive, by Phil Hawsworth
- \* Introducing Talis Connected Commons, by Zach Beauvais
- \* Having a ball with Django, by David North
- \* The Open Stack, by Ben Werdmuller
- \* Web 2.ohhh! How sex has fueled the net, by Wes West
- \* The Big Switch, by Simon Hawkins

== Microslot ideas ==

Want something explained? Someone out there must know... maybe a microslot would help! Why not submit your idea for someone else's microslot?

gelin  
iolande  
Jazza  
jp.stacey  
mapkyca  
Matt Carey  
Matt.t  
Mike Robinson  
oleg  
petef  
PhilHawsworth  
Phillie Casablanca  
platform3  
psd  
rivalee  
rjmunro  
ThayerPrime



# STATIC / PRE-RENDERED / JAMSTACK

# WHAT, WHY AND HOW TO JAMSTACK

**PHIL HAWKSWORTH**



# STATIC



# STATIC





# STATIC



# STATIC

*/'statɪk/*

*lacking in movement,  
action, or change,  
especially in an undesirable  
or uninteresting way.*



# STATIC

*/ˈstatɪk/*

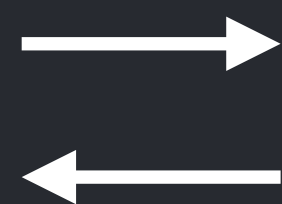
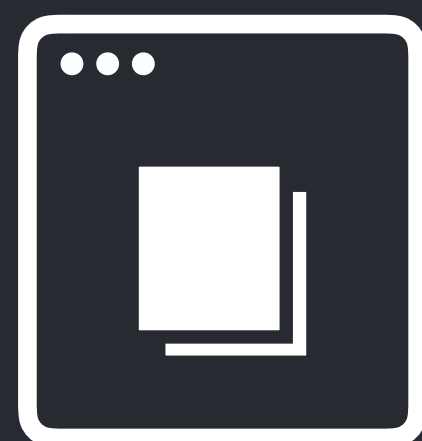
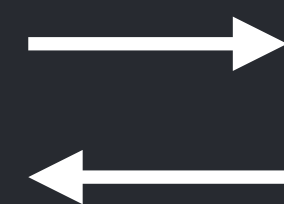
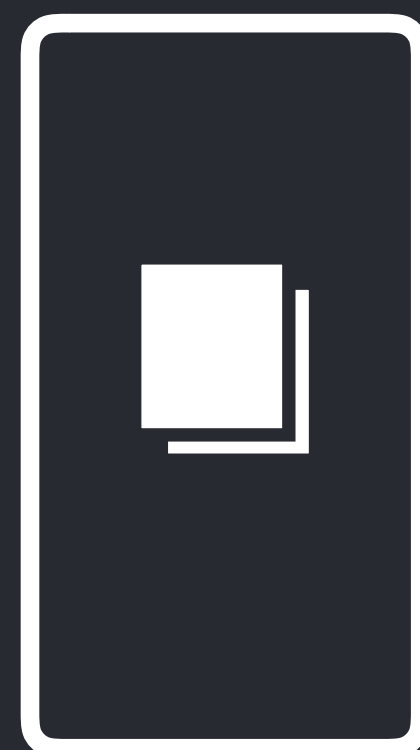
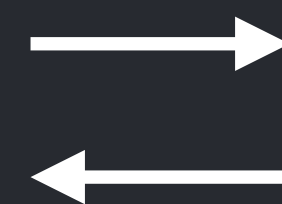
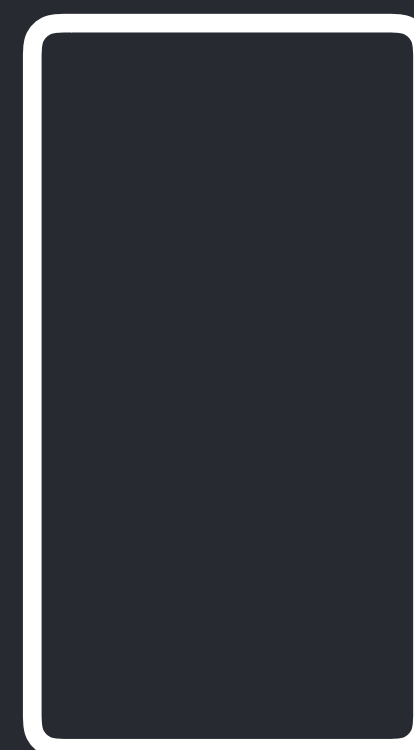
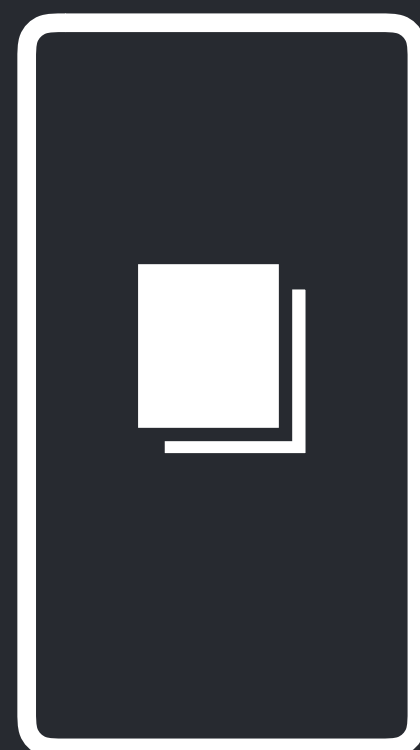
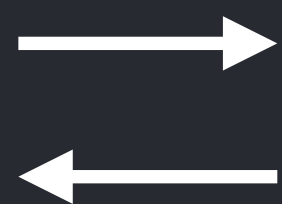
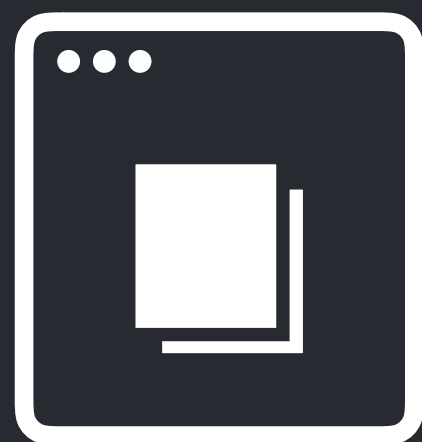
*lacking in movement,  
action, or change,  
especially in an undesirable  
or uninteresting way.*



# STATIC ARCHITECTURE? *or* EXPERIENCE?

# STATIC *as a* VIRTUE

# STATIC *vs* DYNAMIC

*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*

STATIC  
*means*

CAPABLE OF BEING SERVED  
DIRECTLY FROM A CDN



STATIC  
*means*

NO WORK TO BE DONE  
AT REQUEST TIME



A close-up photograph of two slices of toast with red jam spread on them, resting on a wooden cutting board. Two sliced strawberries are placed next to the toast. A butter knife is visible in the background. The image is slightly blurred, creating a soft, warm atmosphere.

*jamstack*

**DON'T GET HUNG UP  
ON THE JAM**



A close-up photograph of two slices of toast on a wooden cutting board. The toast is topped with a thick spread of red jam. Two fresh strawberries are placed next to the toast. A silver butter knife is visible in the background. The image is slightly blurred, focusing on the text overlay.

*jamstack*

**DON'T GET STUCK  
ON THE JAM**



# JAMSTACK

*means*

**CAPABLE OF BEING  
SERVED DIRECTLY  
FROM A CDN**

**CAPABLE OF BEING  
ENHANCED WITH  
JAVASCRIPT AND APIS**

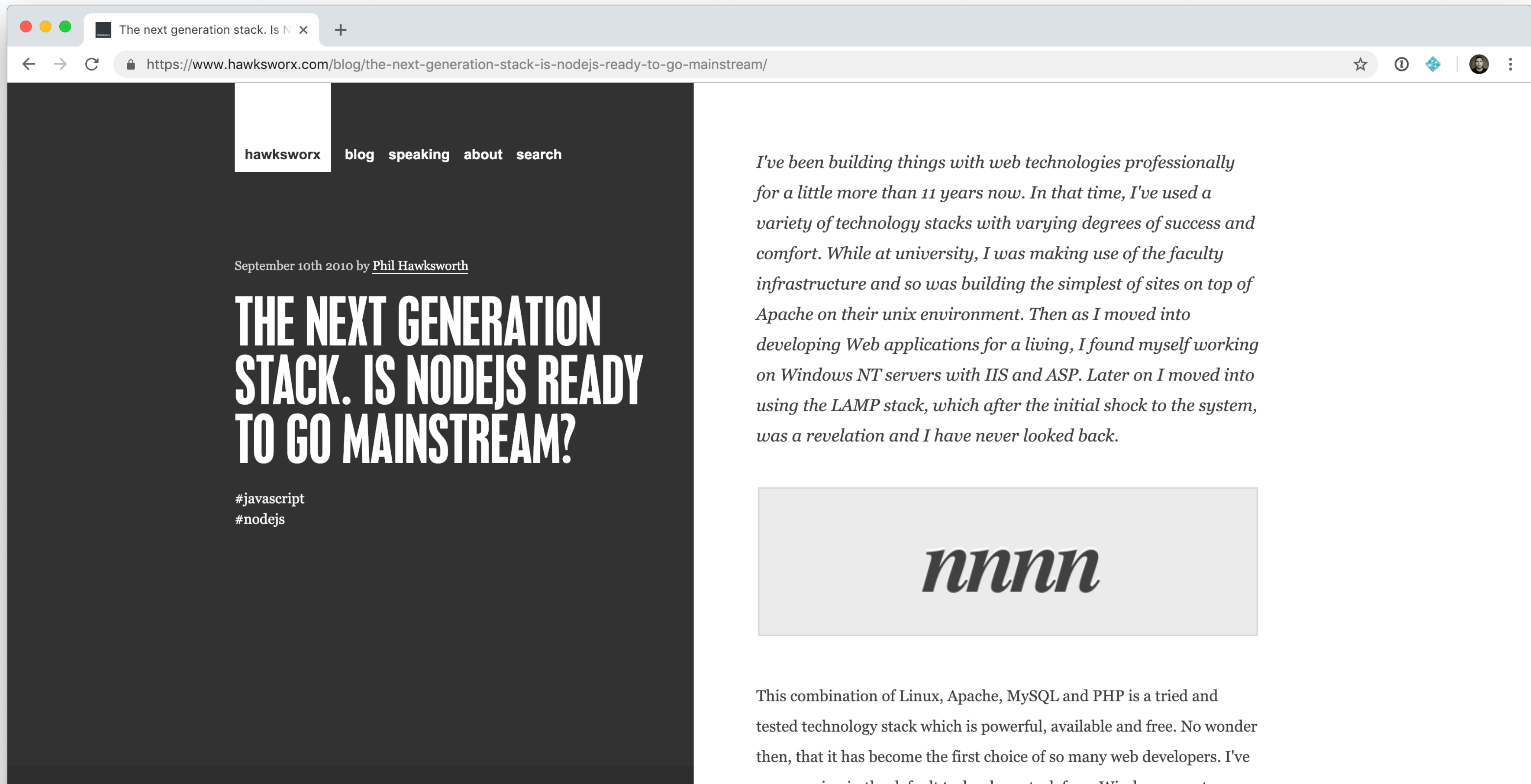
*shhhhh!*

**I SOMETIMES BUILT LAMP STACK  
SITES ON A MAC, AND I DIDN'T  
ALWAYS USE MYSQL**

**MAP STACK**

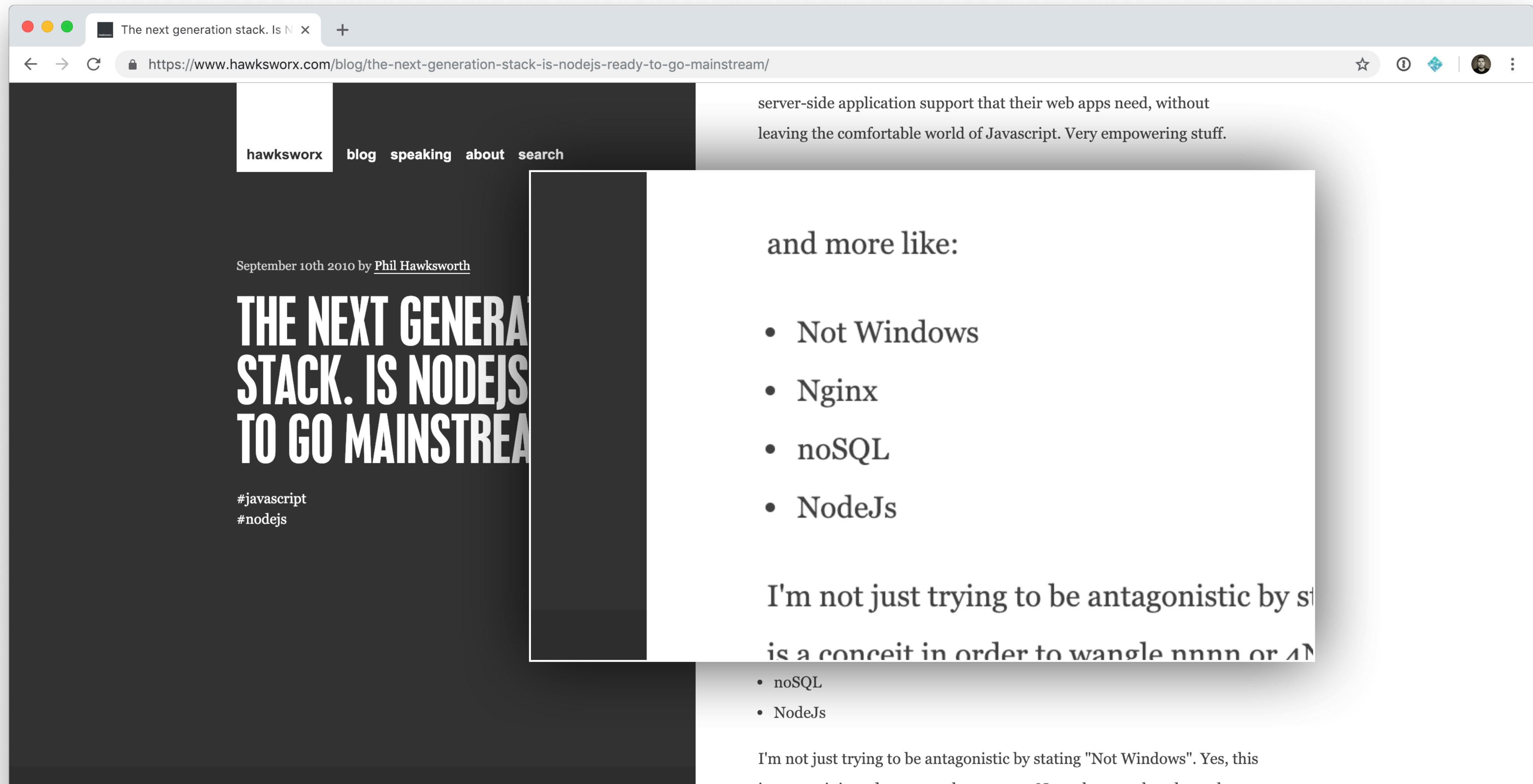
# FINDTHAT.AT/NNNN

<https://www.hawsworx.com/blog/the-next-generation-stack-is-nodejs-ready-to-go-mainstream/>



# FINDTHAT.AT/NNNN

<https://www.hawsworx.com/blog/the-next-generation-stack-is-nodejs-ready-to-go-mainstream/>



**WELL ACTUALLY...**  
**THIS JAMSTACK STUFF**  
**IS NOTHING NEW**

**THAT VOICE ON THE INTERNET**



# BAKE, DON'T FRY

— *Aaron Swartz*



**I CARE ABOUT NOT HAVING TO  
MAINTAIN CRANKY AOLSERVER,  
POSTGRES AND ORACLE INSTALLS**

**AARON SWARTZ**

# *jamstack* *enablers*

# WHAT, WHY AND **HOW** TO JAMSTACK

**PHIL HAWKSWORTH**



# BROWSERS

EVERGREEN / RICH APIS / OFFLINE / PERFORMANCE / STANDARDISATION

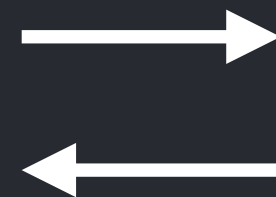
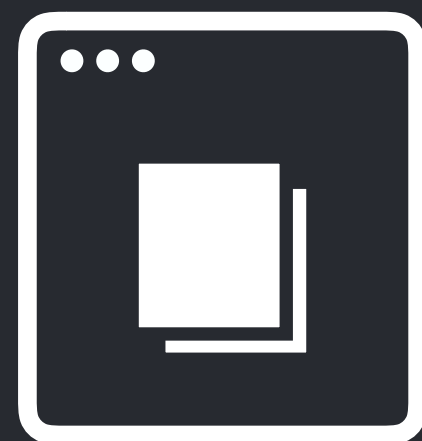
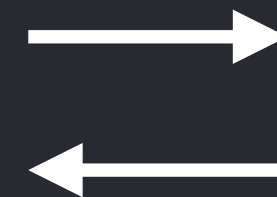
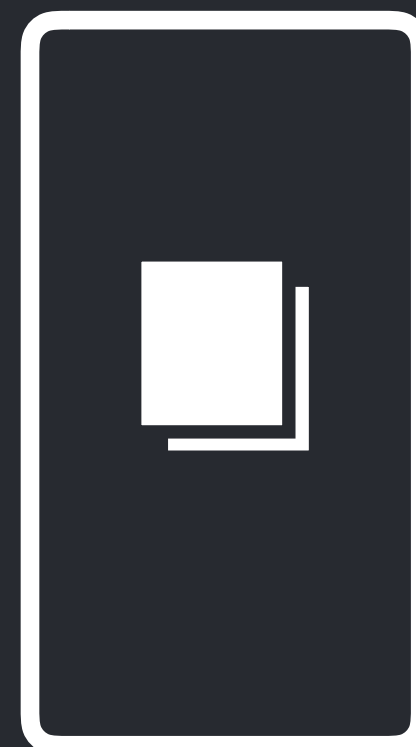
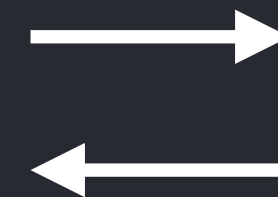
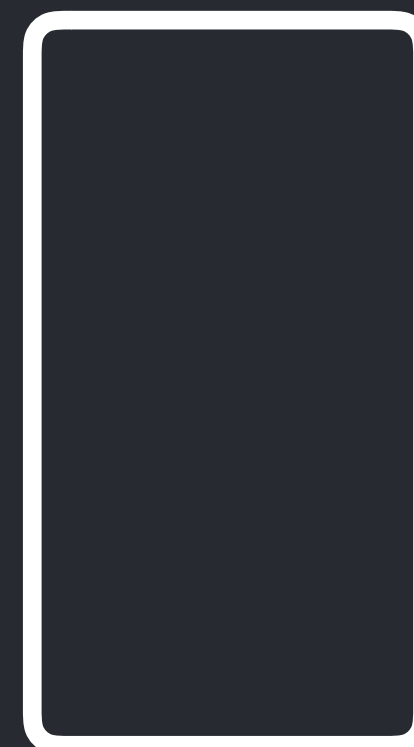
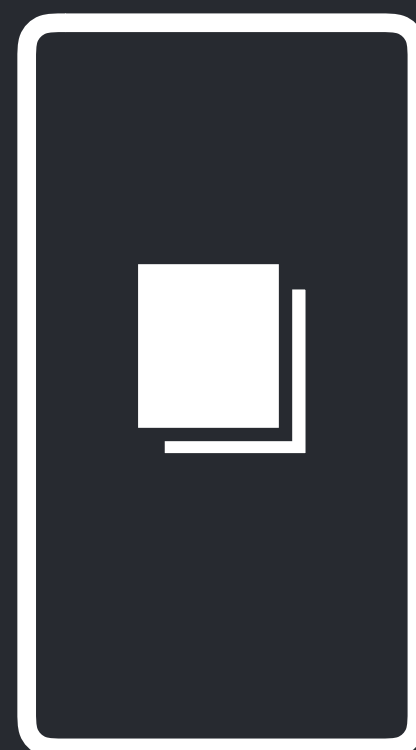
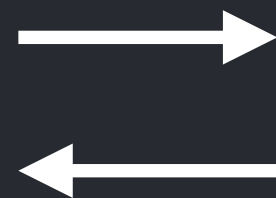
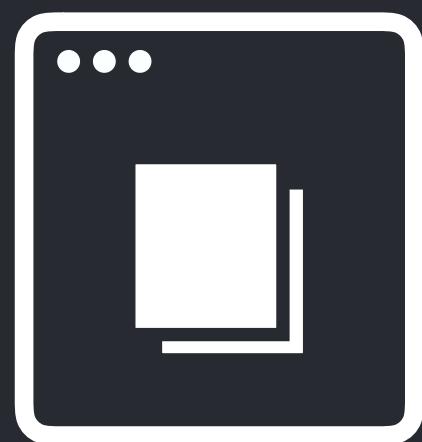
# ECOSYSTEM

GENERATORS / CONTENT / ASSETS / AUTHENTICATION / E-COMMERCE / SEARCH

# INFRASTRUCTURE

TOOLING / CDN / CI/CD / AUTOMATION / TRIGGERS / EVENTS



*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*



# LAUNCH DAY





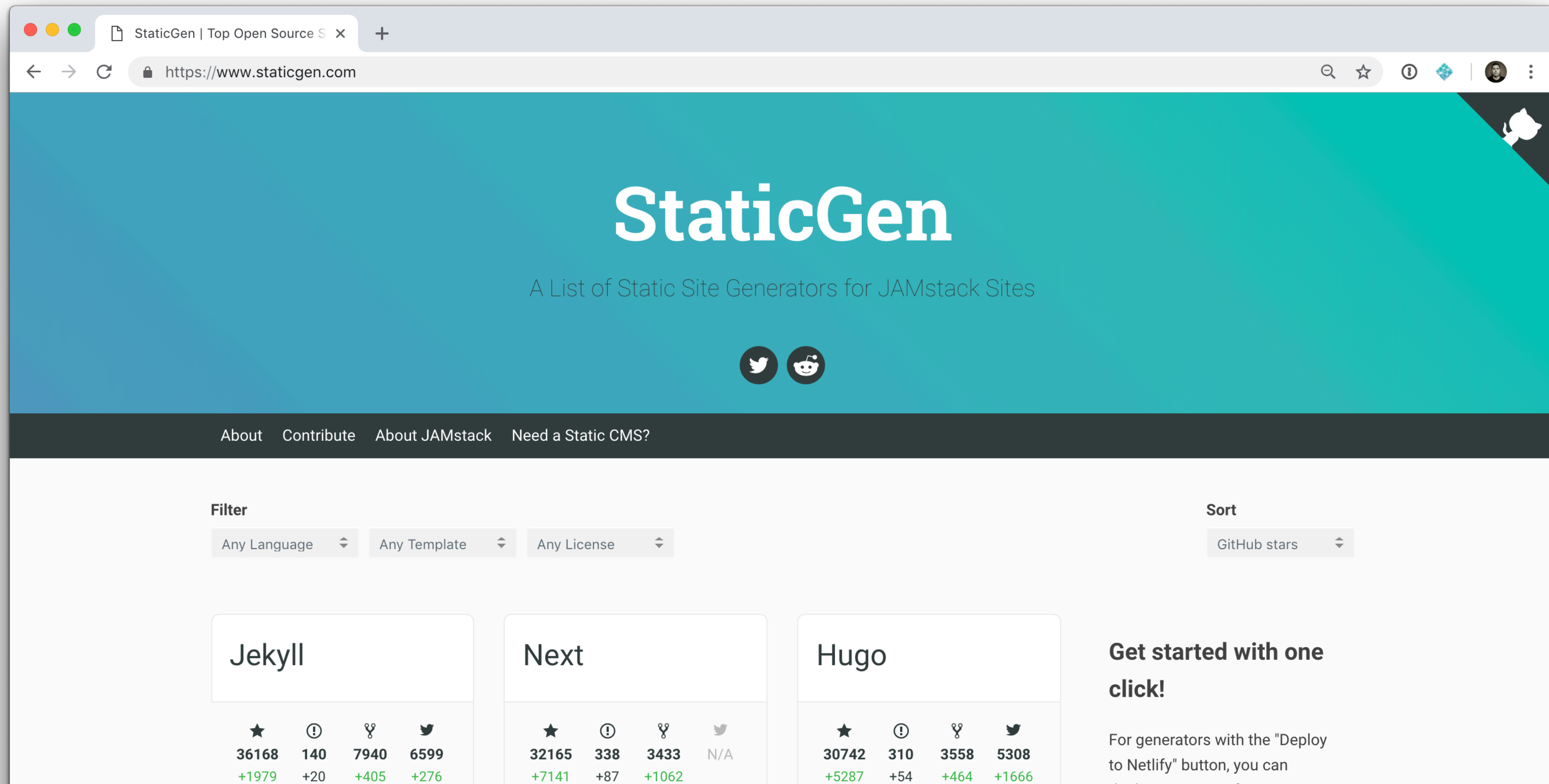
# GET TO THE ~~CHOPPER~~ CDN





# FINDTHAT.AT/SSGS

<https://www.staticgen.com/>



The screenshot shows a web browser window displaying the StaticGen website. The browser's address bar shows the URL <https://www.staticgen.com/>. The website has a teal header with the title "StaticGen" and the subtitle "A List of Static Site Generators for JAMstack Sites". Below the header, there are social media icons for Twitter and GitHub. A dark navigation bar contains links: "About", "Contribute", "About JAMstack", and "Need a Static CMS?". The main content area features a "Filter" section with dropdown menus for "Any Language", "Any Template", and "Any License", and a "Sort" section with a dropdown for "GitHub stars". Below the filters, three cards are visible for "Jekyll", "Next", and "Hugo", each displaying GitHub star counts and recent change indicators. A sidebar on the right contains the text "Get started with one click!" and a description of the "Deploy to Netlify" button.

StaticGen

A List of Static Site Generators for JAMstack Sites

About Contribute About JAMstack Need a Static CMS?

Filter

Any Language Any Template Any License

Sort

GitHub stars

Jekyll

Next

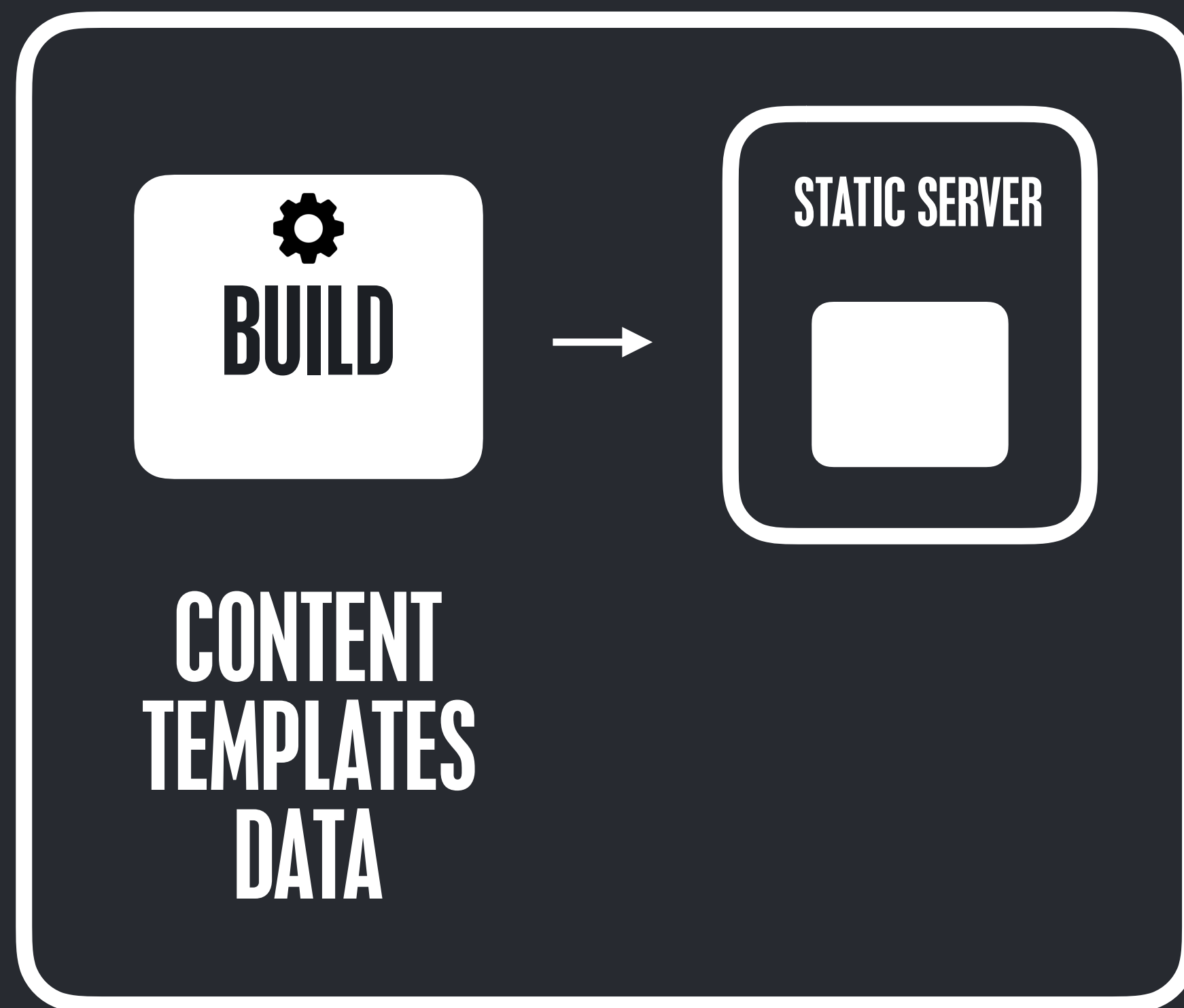
Hugo

Get started with one click!

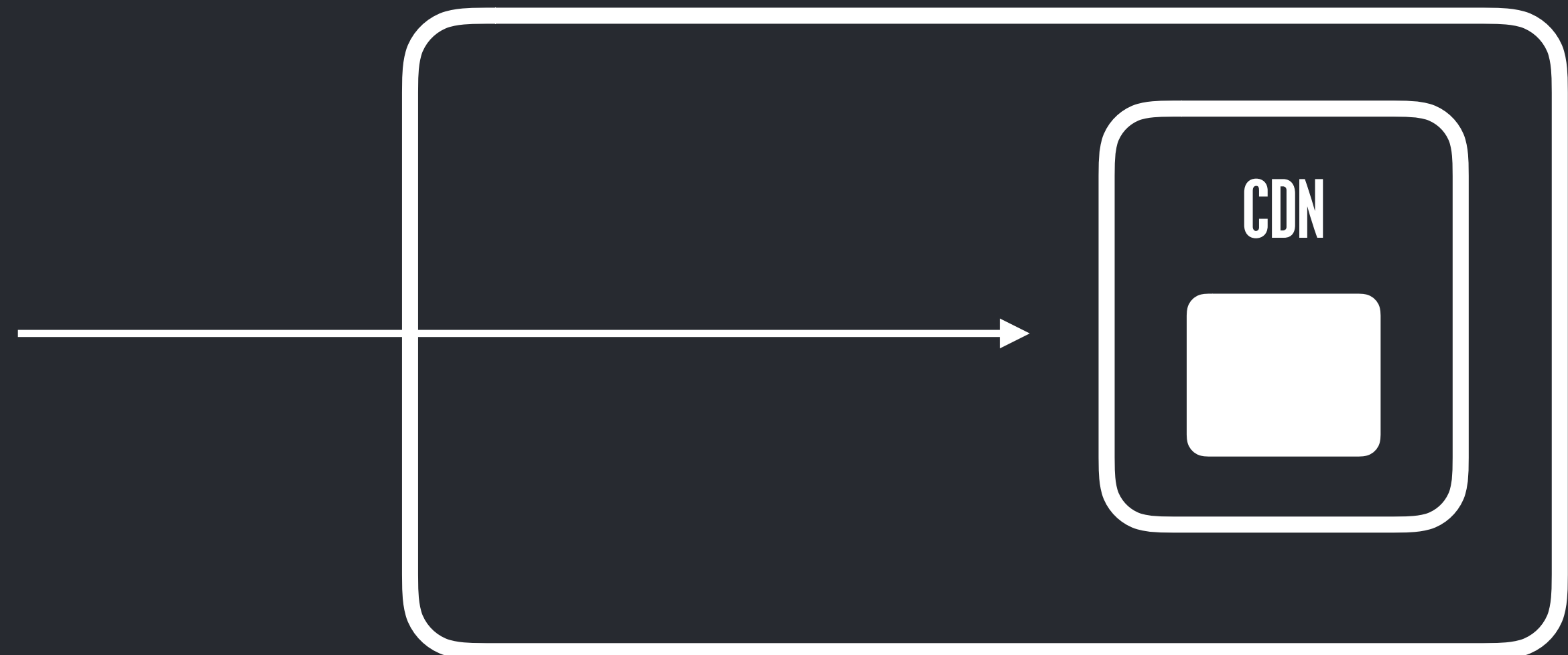
For generators with the "Deploy to Netlify" button, you can

| Generator | Stars          | Issues     | Forks         | Twitter       |
|-----------|----------------|------------|---------------|---------------|
| Jekyll    | 36168<br>+1979 | 140<br>+20 | 7940<br>+405  | 6599<br>+276  |
| Next      | 32165<br>+7141 | 338<br>+87 | 3433<br>+1062 | N/A           |
| Hugo      | 30742<br>+5287 | 310<br>+54 | 3558<br>+464  | 5308<br>+1666 |

## LOCAL

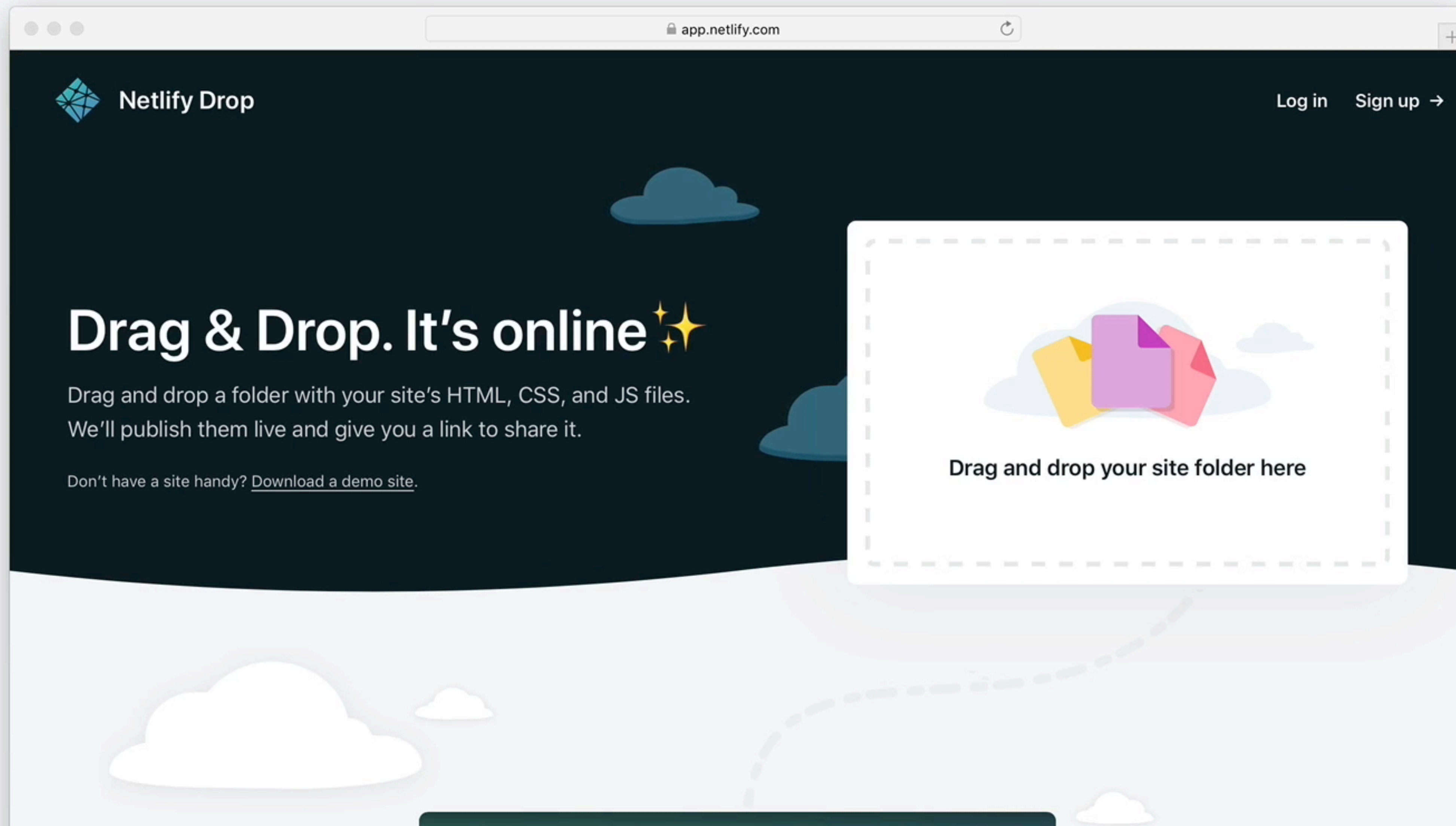


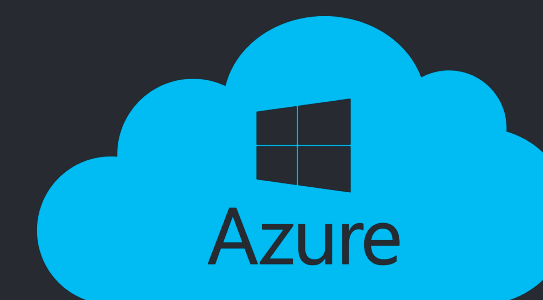
## HOSTING



# FINDTHAT.AT/DROP

<https://app.netlify.com/drop>





# AUTOMATION

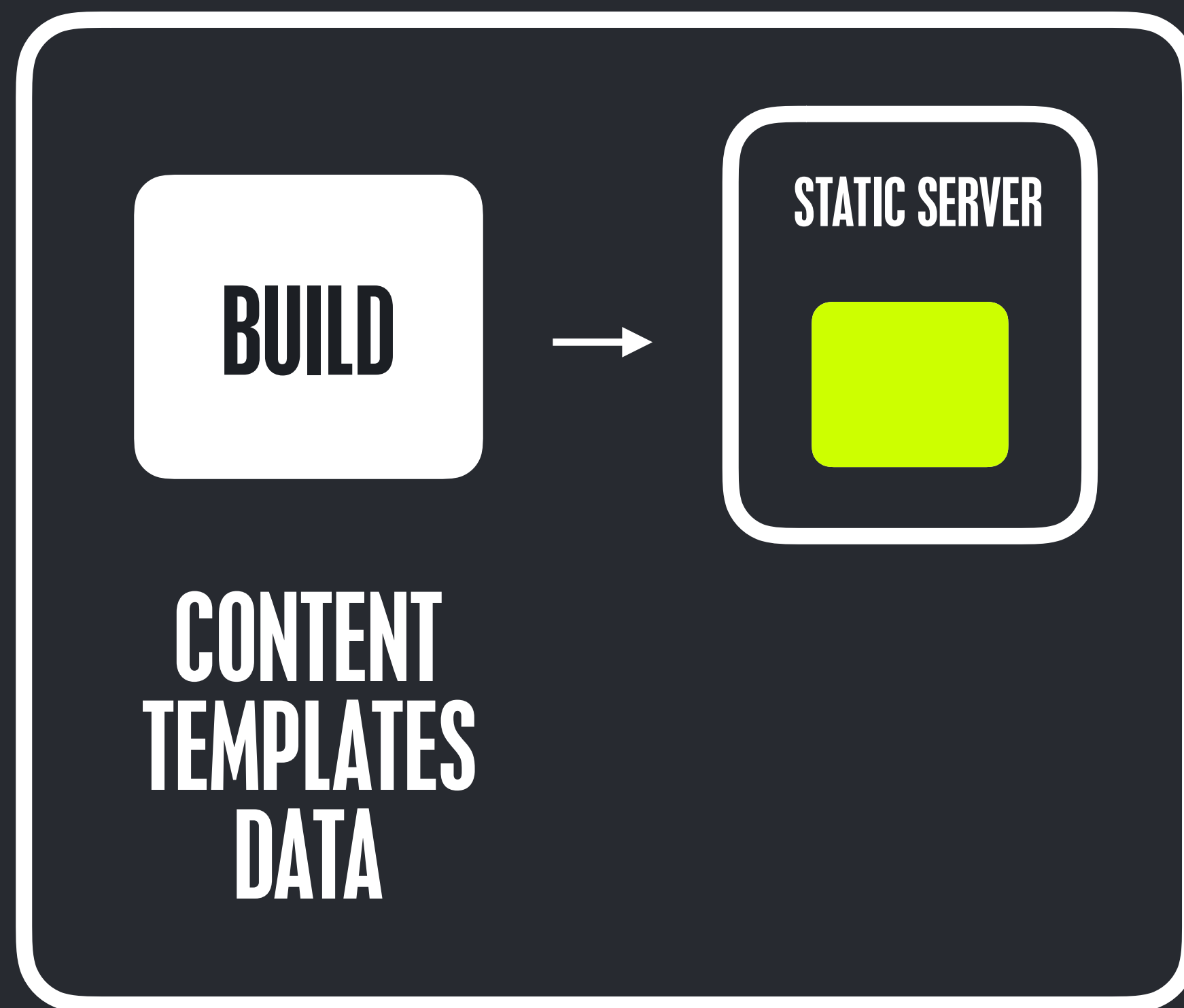
REPEATABILITY / PREDICTABILITY / ACCOUNTABILITY / AGILITY

# REPLICATION

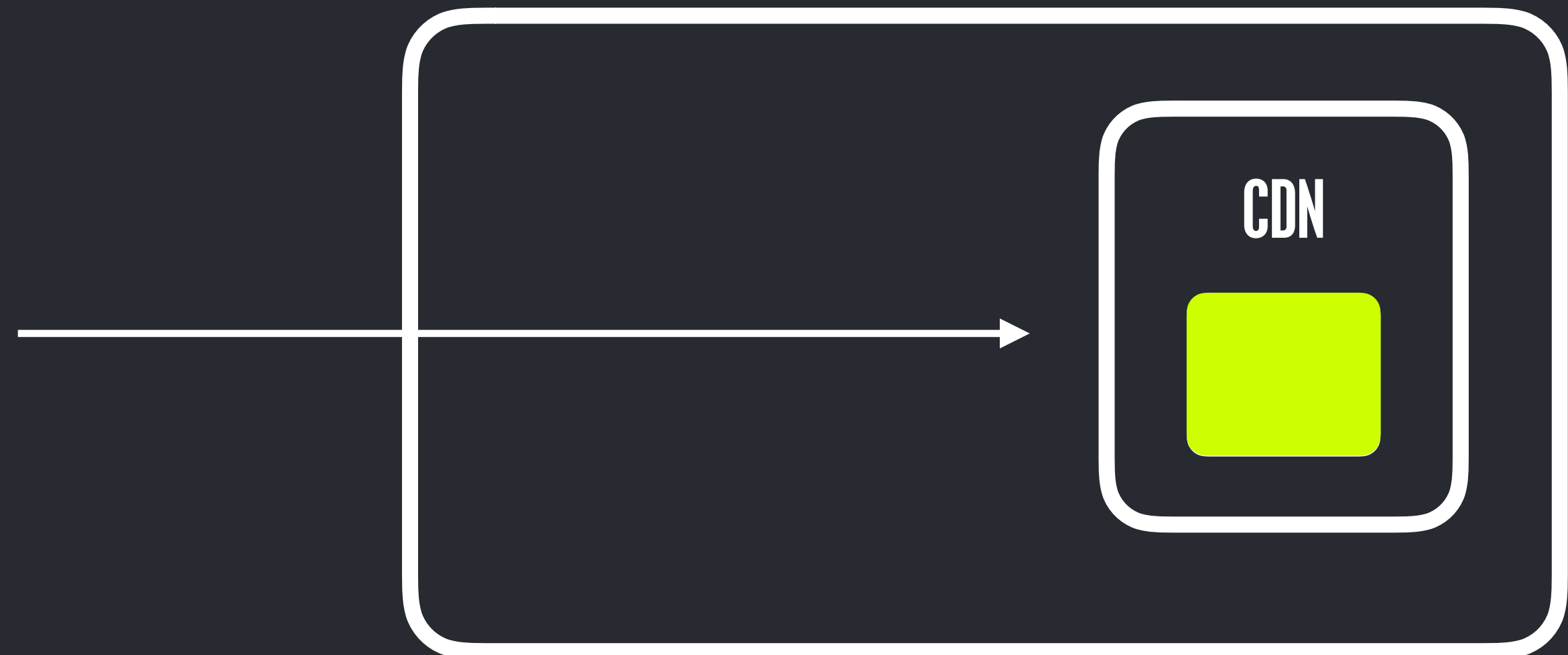
REPEATABILITY / PREDICTABILITY / CONFIDENCE / VERSION CONTROL



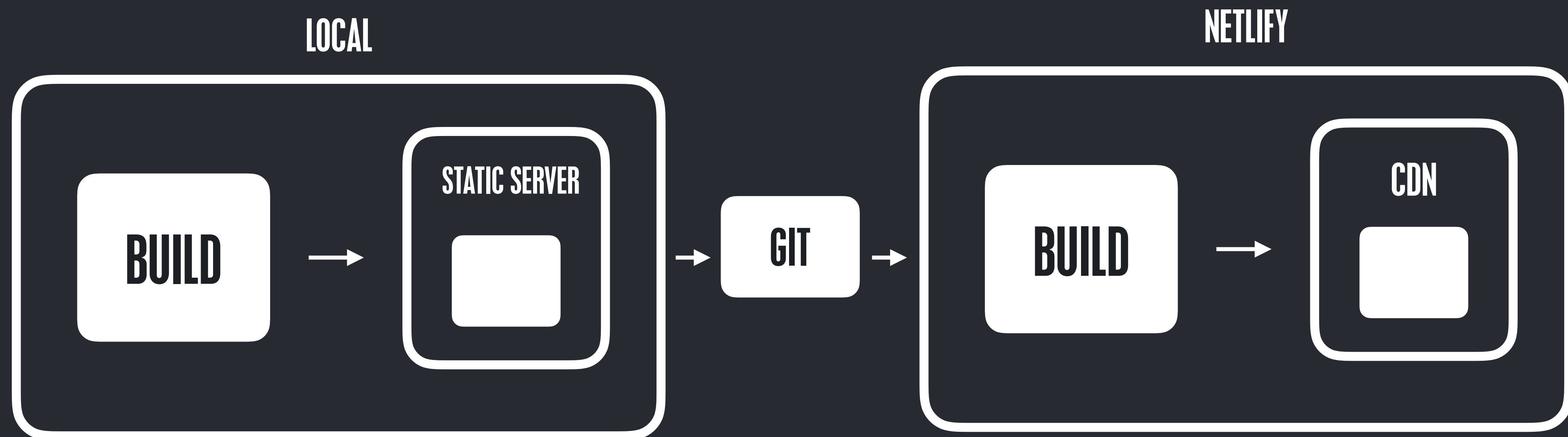
## LOCAL



## HOSTING

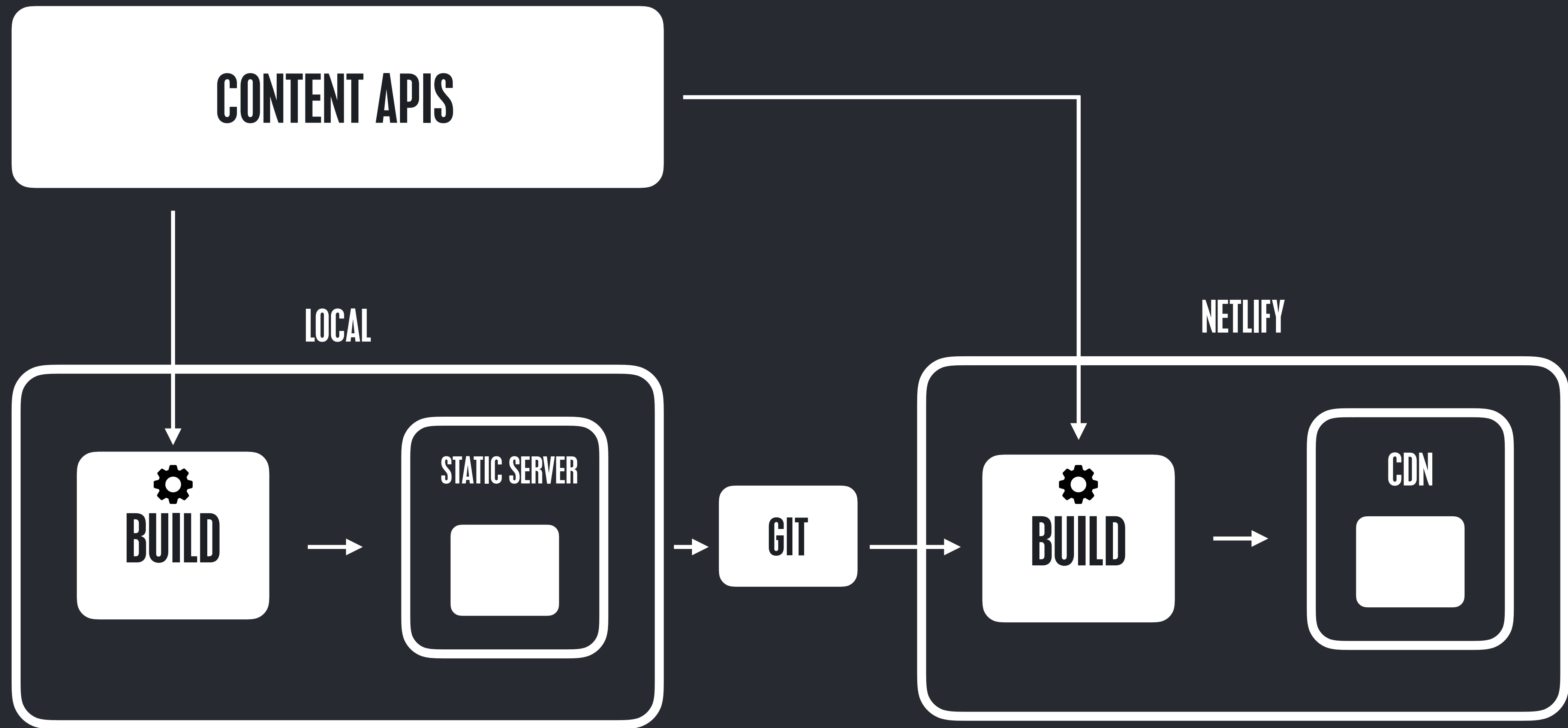


# GIT-BASED DEPLOYMENTS





# DATA SOURCES





# PROVE IT, PHIL



*enabled by*

# AUTOMATION AND REPLICATION



# PROVE IT, PHIL

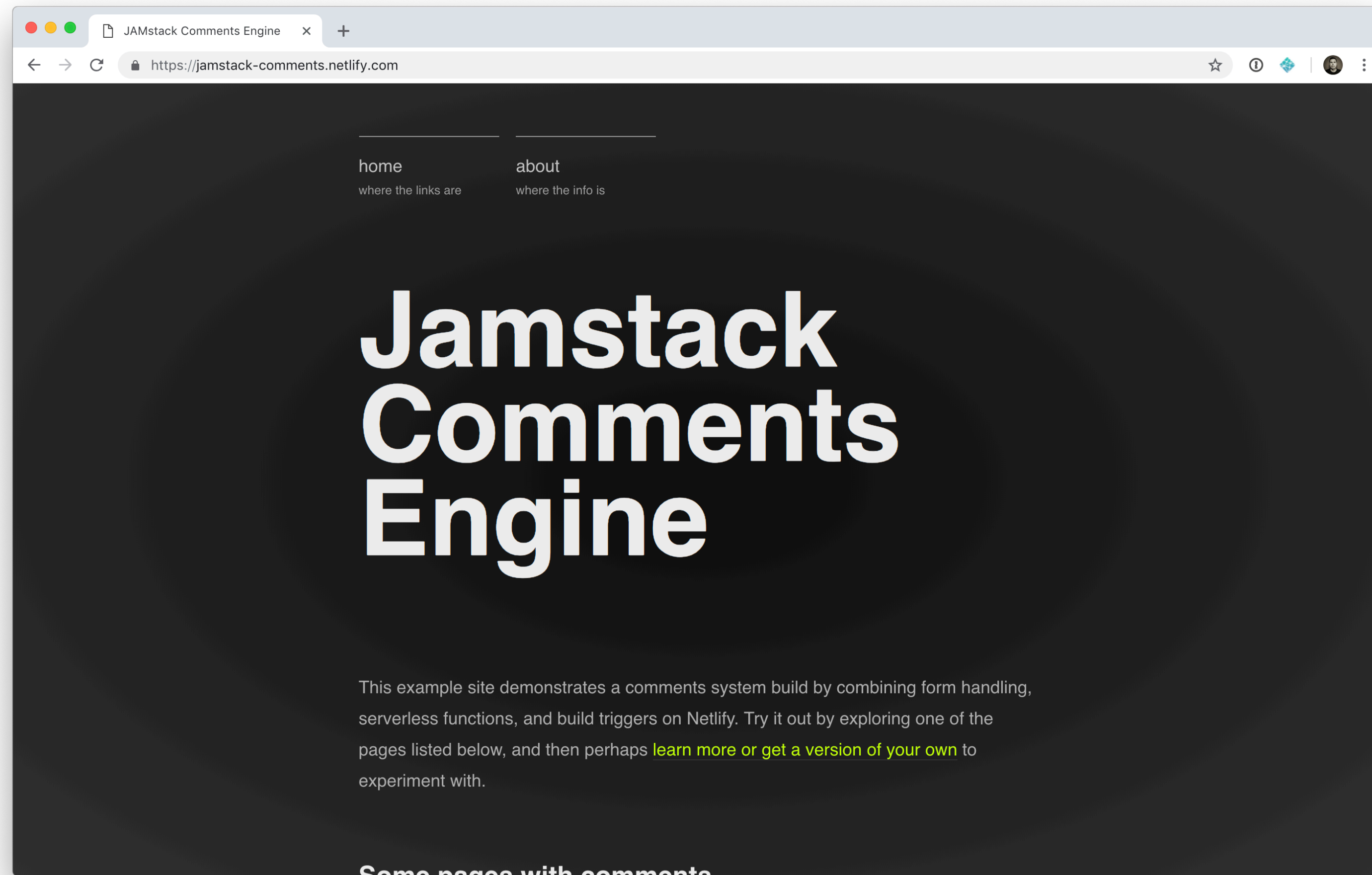


*enabled by*

**HAVING A  
KNOWABLE STATE**

# FINDTHAT.AT/COMMENTS

<https://jamstack-comments.netlify.com>



**ZERO JAVASCRIPT  
DEPENDENCIES**

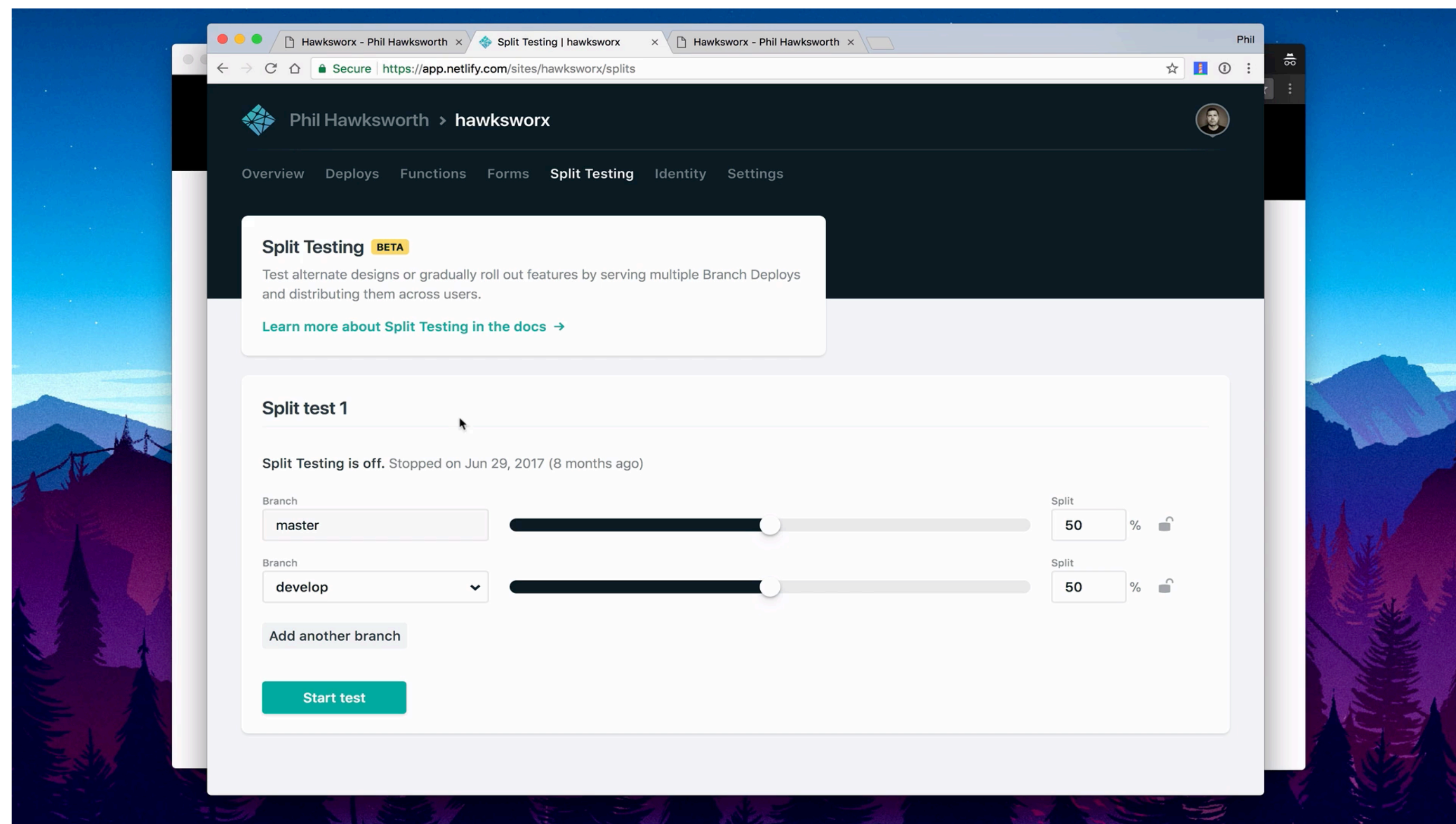
**COMMENTS AS  
PAGE CONTENT**

**NOTIFICATIONS AND  
MODERATION VIA SLACK**



# FINDTHAT.AT/AB

<https://www.youtube.com/watch?v=5VgpJJUOng4>



**ZERO JAVASCRIPT  
DEPENDENCIES**

**VARIANTS ALL DEPLOYED  
AS PRODUCTION**

**ZERO PERFORMANCE  
OVERHEADS**

# VERY LOW FRICTION



**Zach Leatherman**

@zachleat

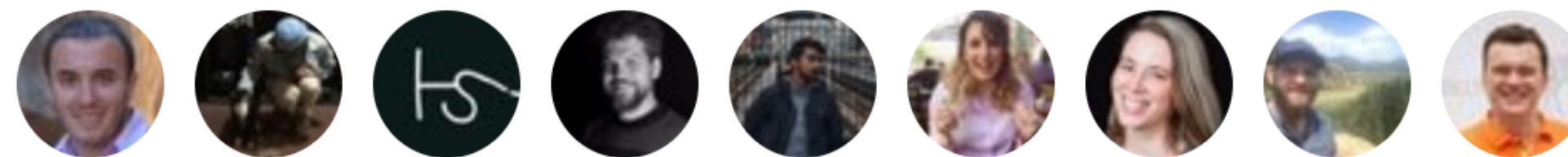
Following



free side project idea: HTML-only static site generated clock that deploys a new version to [@netlify](#) every minute

8:54 PM - 19 Jul 2018

30 Likes

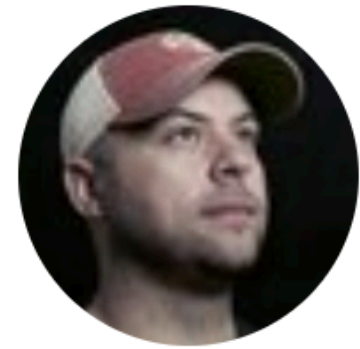


3



30



**Chris Coyier** 

@chriscoyier

Following



Replying to @zachleat @hankchizljaw @Netlify

Would be clever marketing for Netlify for sure. \_Builds so cheap you can set your clock by them.\_

(I'm still workshopping it.)

9:12 PM - 19 Jul 2018

7 Likes







**Phil Hawksworth**

@philhawksworth



Replying to @zachleat @chriscoyier and 2 others

Hold my beer.

10:25 PM - 19 Jul 2018

**12** Likes



2



12



**Phil Hawksworth**

@philhawksworth



Replying to @philhawksworth @zachleat and 3 others

Only an idiot would make what you are suggesting.

[setyourwatchby.netlify.com](https://setyourwatchby.netlify.com)

2:02 PM - 20 Jul 2018

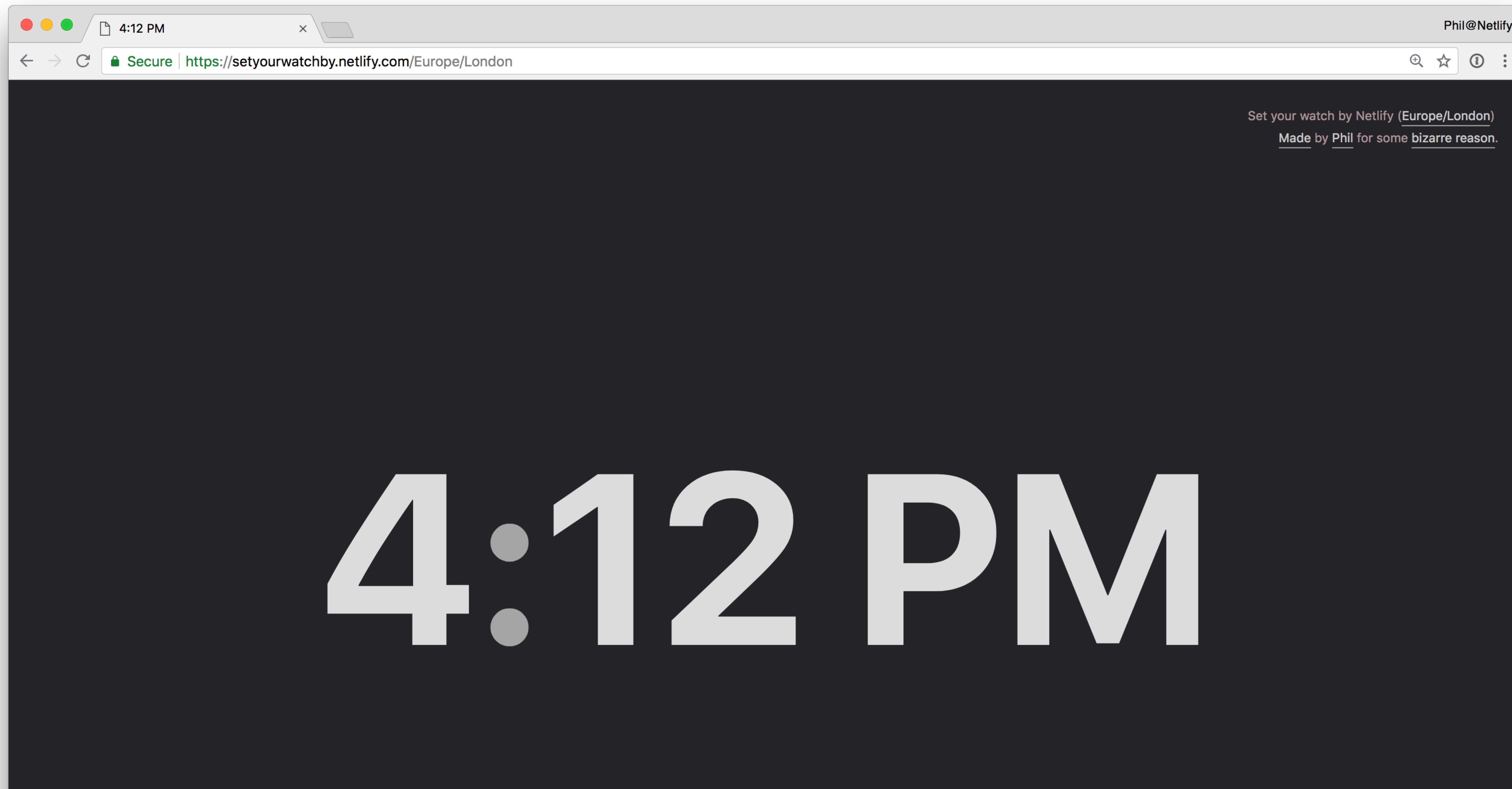
12 Retweets 41 Likes





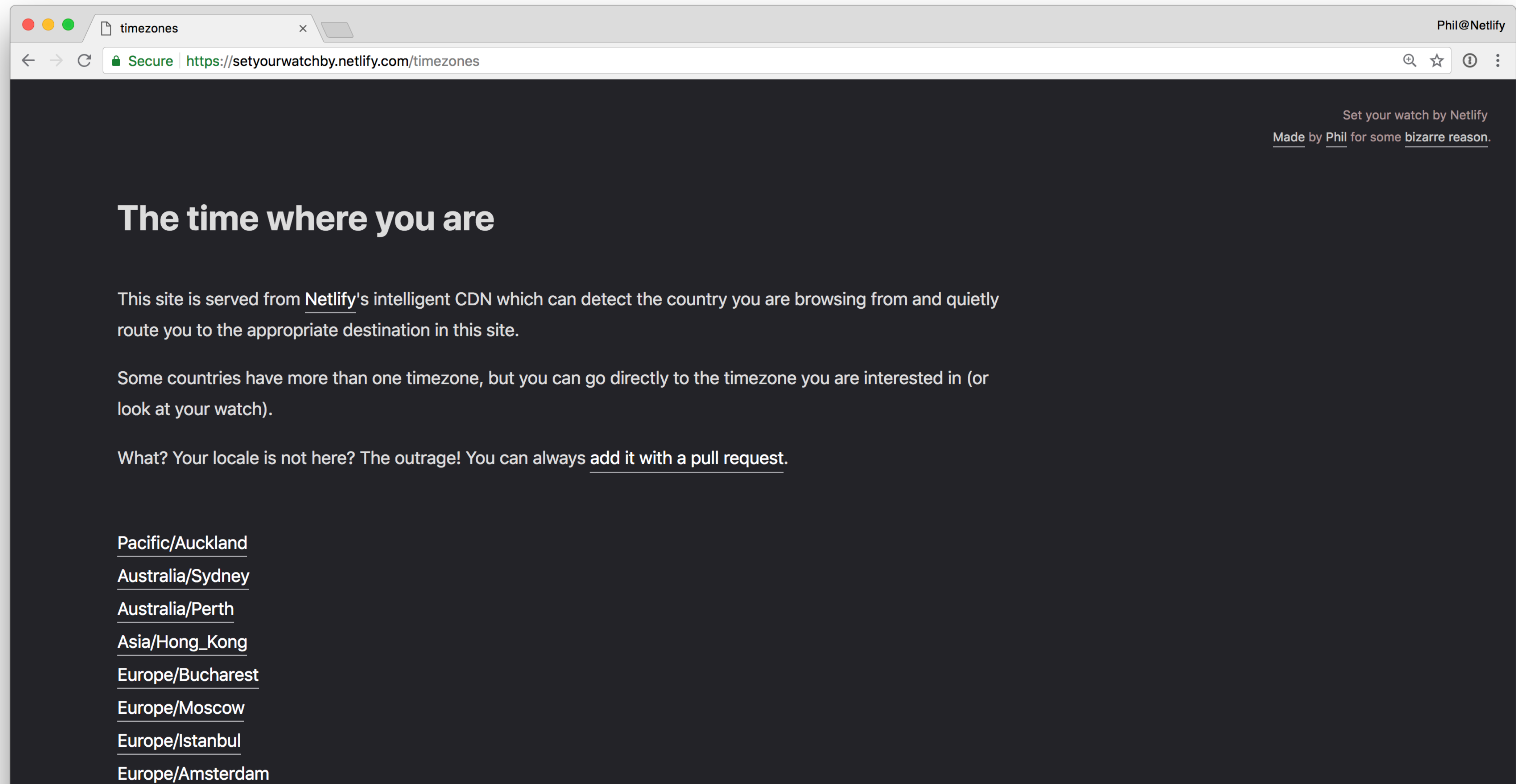
# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com>



# FINDTHAT.AT/TIME

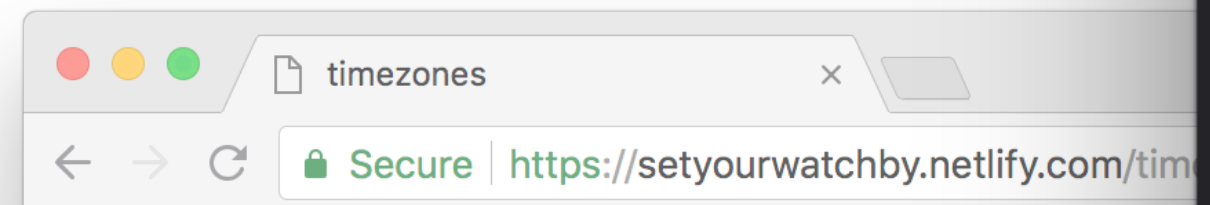
<https://setyourwatchby.netlify.com>





# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com/timezones>



## The time where you

This site is served from [Netlify's](#) intelligent edge network, which routes you to the appropriate destination.

Some countries have more than one time zone (e.g. India, China, and the US look at your watch).

What? Your locale is not here? The outrage is real.

[Pacific/Auckland](#)

[Australia/Sydney](#)

[Australia/Perth](#)

[Asia/Hong\\_Kong](#)

[Europe/Bucharest](#)

[Europe/Moscow](#)

[Europe/Istanbul](#)

[Europe/Amsterdam](#)

[Pacific/Auckland](#)

[Australia/Sydney](#)

[Australia/Perth](#)

[Asia/Hong\\_Kong](#)

[Europe/Bucharest](#)

[Europe/Moscow](#)

[Europe/Istanbul](#)

[Europe/Amsterdam](#)

[Europe/Paris](#)

[Europe/London](#)

[America/New\\_York](#)

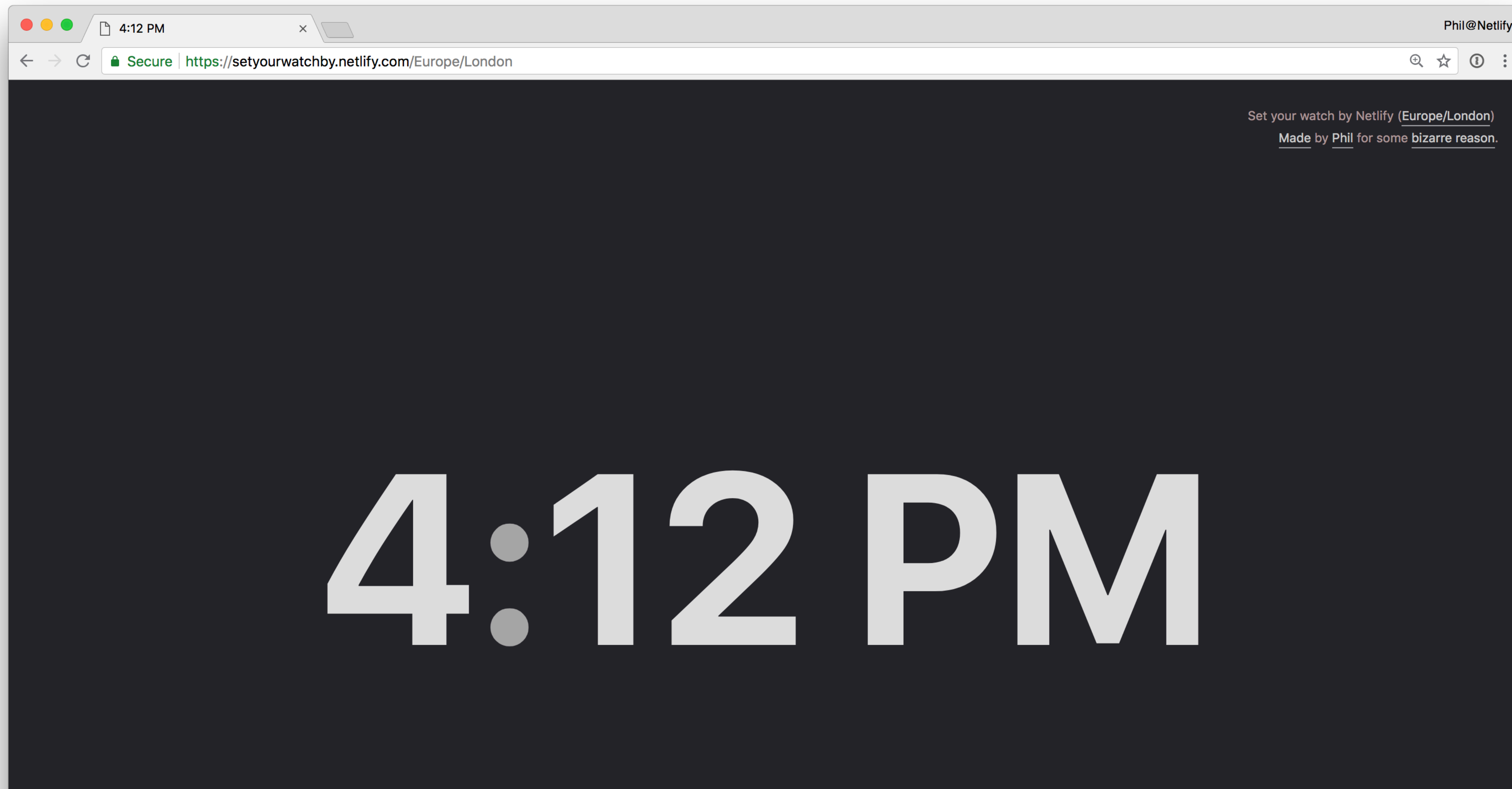
[America/Chicago](#)

[America/Denver](#)

[America/Los\\_Angeles](#)

# FINDTHAT.AT/TIME

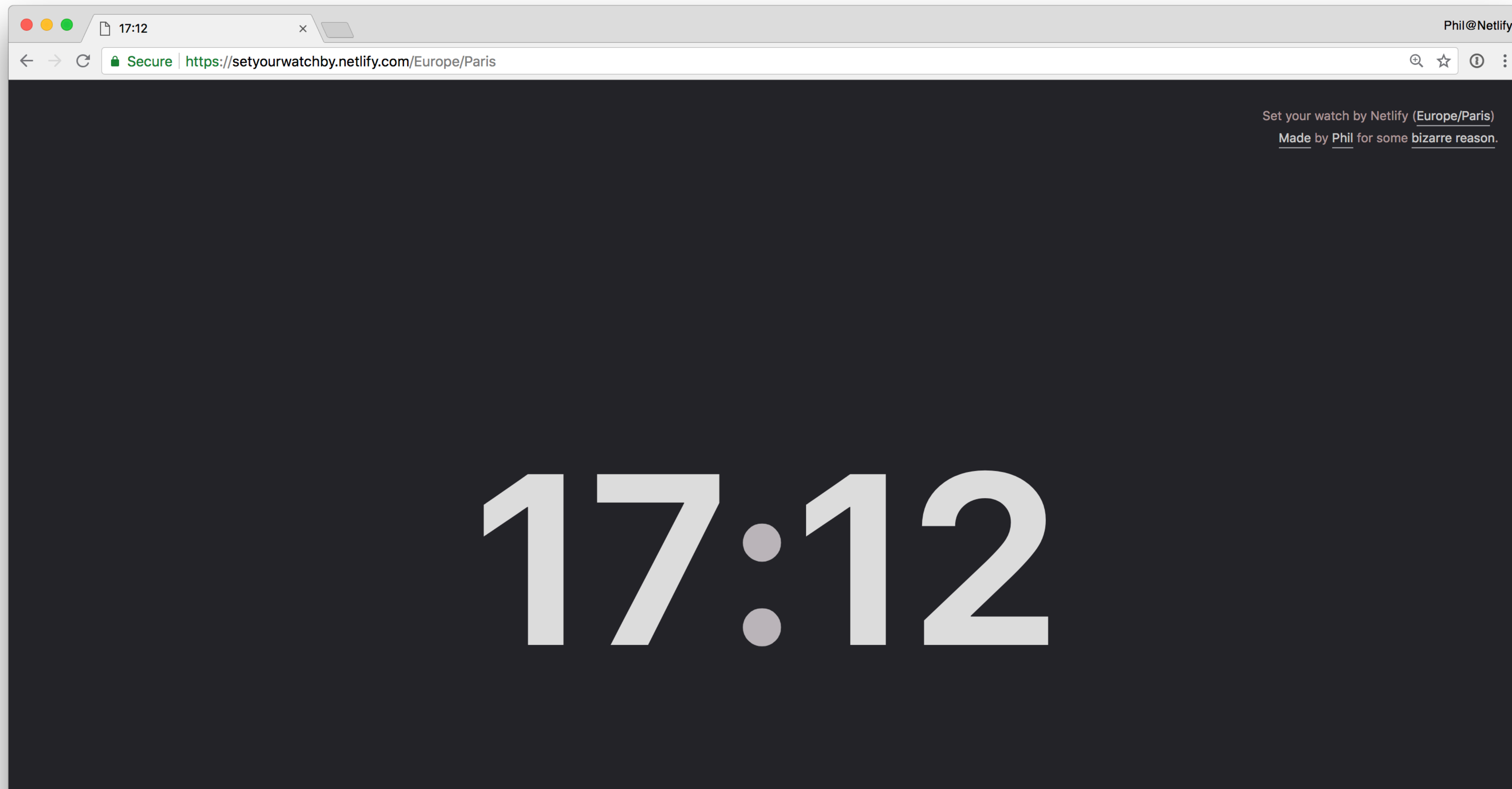
<https://setyourwatchby.netlify.com>





# FINDTHAT.AT/TIME

<https://setyourwatchby.netlify.com>



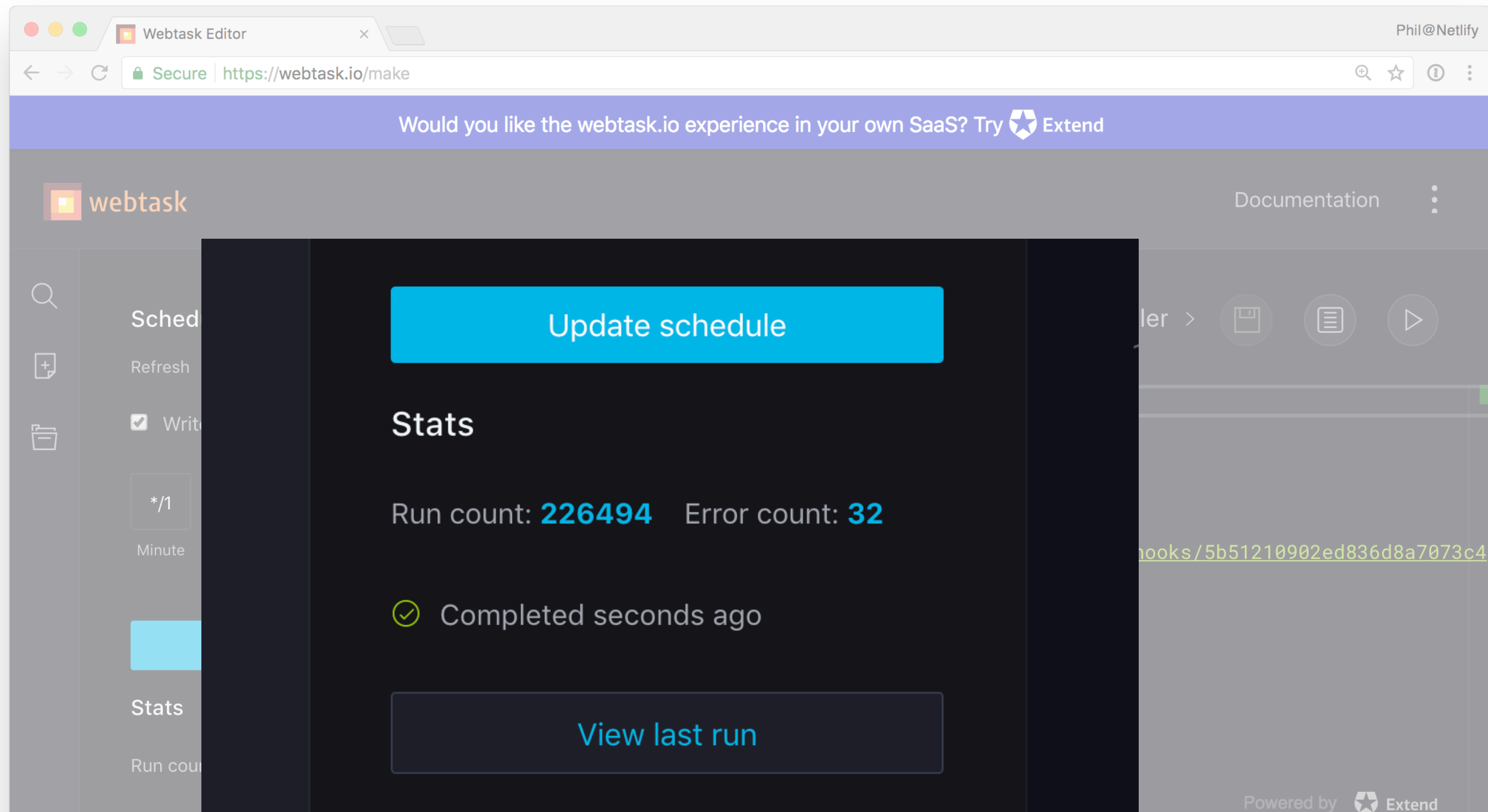
The screenshot displays the Webtask Editor web application. At the top, a blue banner promotes the 'Extend' platform. The main interface is dark-themed. On the left, a sidebar contains a search icon, a plus icon, and a folder icon. The central area is divided into two panels. The left panel, titled 'Scheduler', includes a 'Refresh' button, a 'Remove schedule' button, a checkbox for 'Write an advanced schedule' (which is checked), and five buttons for scheduling frequency: '\* / 1' (Minute), '\*' (Hour), '\*' (Day), '\*' (Month), and '\*' (Weekday). Below these is a large blue 'Update schedule' button. The right panel, titled 'Netlify-HTML-time-scheduler', shows a code editor with a JavaScript snippet: 



```
1 var request = require('request');
2
3 module.exports = function(cb) {
4   request({
5     method: 'POST',
6     url: 'https://api.netlify.com/build_hooks/5b51210902ed836d8a7073c4
7   });
8   cb(null, { msg: 'done '});
9 };
10
```

 The code is syntax-highlighted. At the bottom right, the text 'Powered by Extend' is visible.



# WEBTASK.IO



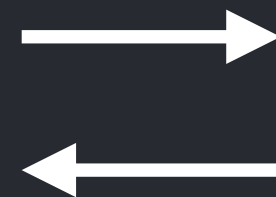
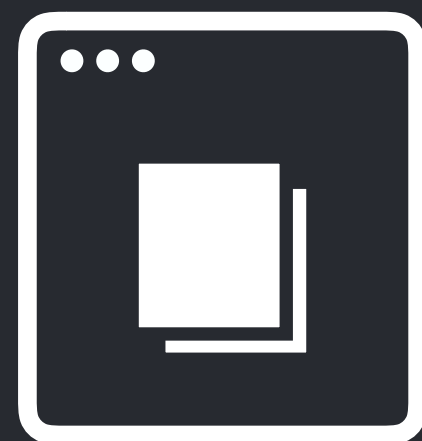
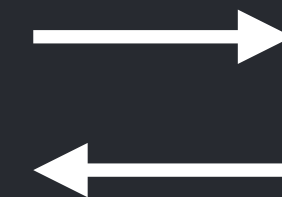
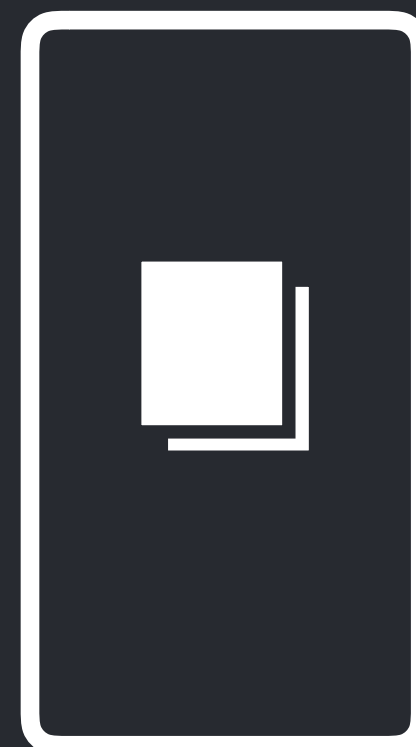
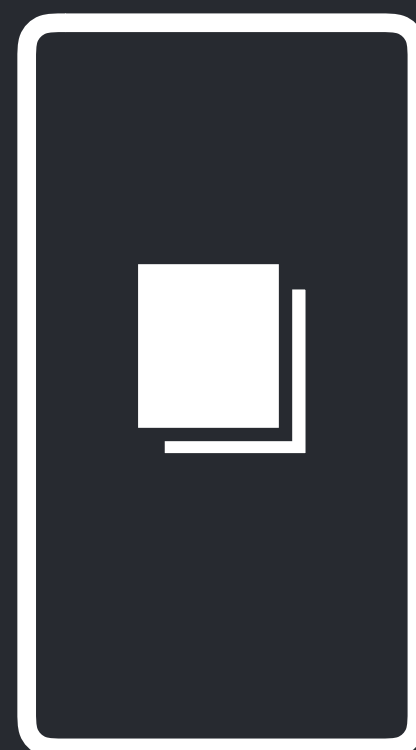
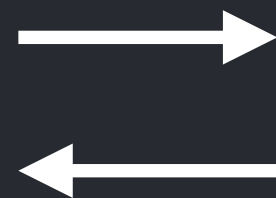
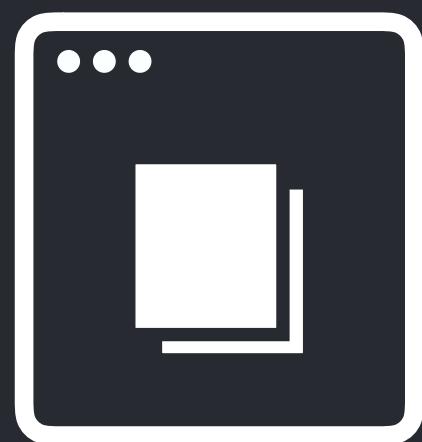
The screenshot shows a web browser window with the title 'Webtask Editor' and the URL 'https://webtask.io/make'. The page features a purple header with a promotional message: 'Would you like the webtask.io experience in your own SaaS? Try  Extend'. Below the header, the 'webtask' logo is visible on the left, and 'Documentation' is on the right. The main content area is a dark modal window with a blue 'Update schedule' button at the top. Below it, the 'Stats' section displays 'Run count: 226494' and 'Error count: 32'. A green checkmark icon indicates the task is 'Completed seconds ago'. At the bottom of the modal is a 'View last run' button. The background interface includes a search icon, a 'Scheduled' section with a 'Refresh' button, a 'Write' checkbox, a cron schedule '\* / 1' with a 'Minute' label, and a 'Stats' section with a 'Run count' label. A URL 'hooks/5b51210902ed836d8a7073c4' is visible in the background. The footer of the browser window shows 'Powered by  Extend'.

# WHAT, **WHY** AND HOW TO JAMSTACK

**PHIL HAWKSWORTH**





*dynamic***CDN****LOAD BALANCER****WEB SERVERS****DB SERVERS***static*

*jamstack can*

**REDUCE  
DEPLOYMENT  
FRICTION**



*jamstack can*

**RAISE  
DEPLOYMENT  
CONFIDENCE**

*jamstack can*

**SIMPLIFY  
PERFORMANCE  
SECURITY AND SCALE**



*jamstack can*

LET YOU  
DO MORE  
WITH LESS

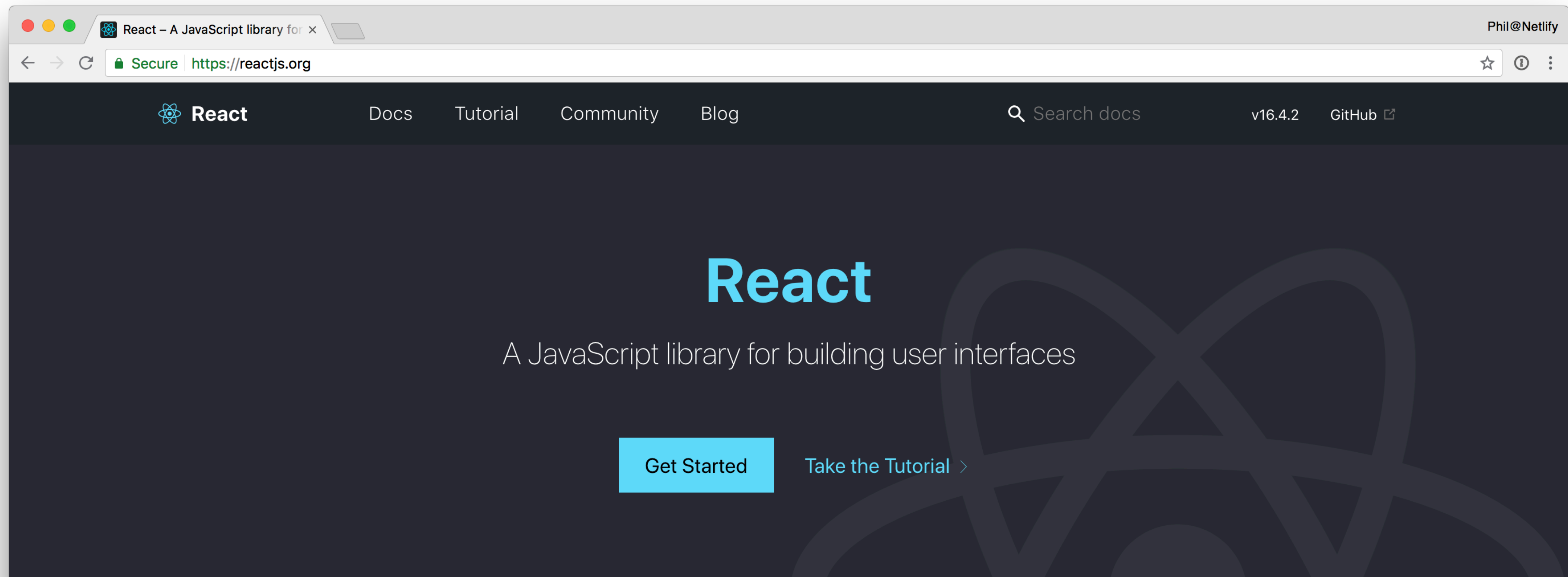
# WHAT, WHY AND HOW **AND WHO** TO JAMSTACK

**PHIL HAWKSWORTH**





# REACTJS.ORG



## Declarative

React makes it painless to create interactive UIs. Design simple views for each state in your application, and React will efficiently update and render just the right components when your data changes.

## Component-Based

Build encapsulated components that manage their own state, then compose them to make complex UIs.

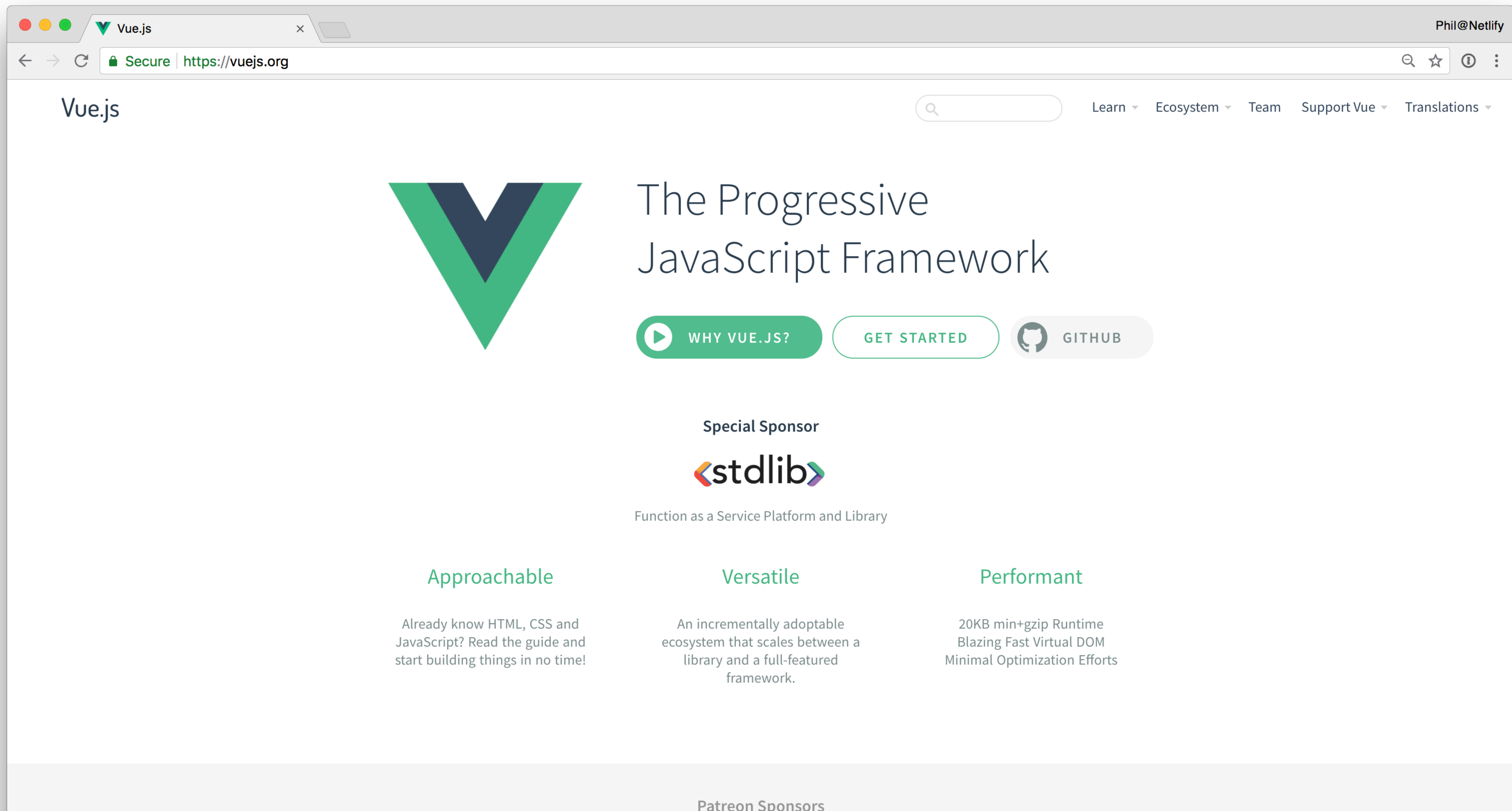
Since component logic is written in JavaScript

## Learn Once, Write Anywhere

We don't make assumptions about the rest of your technology stack, so you can develop new features in React without rewriting existing code.

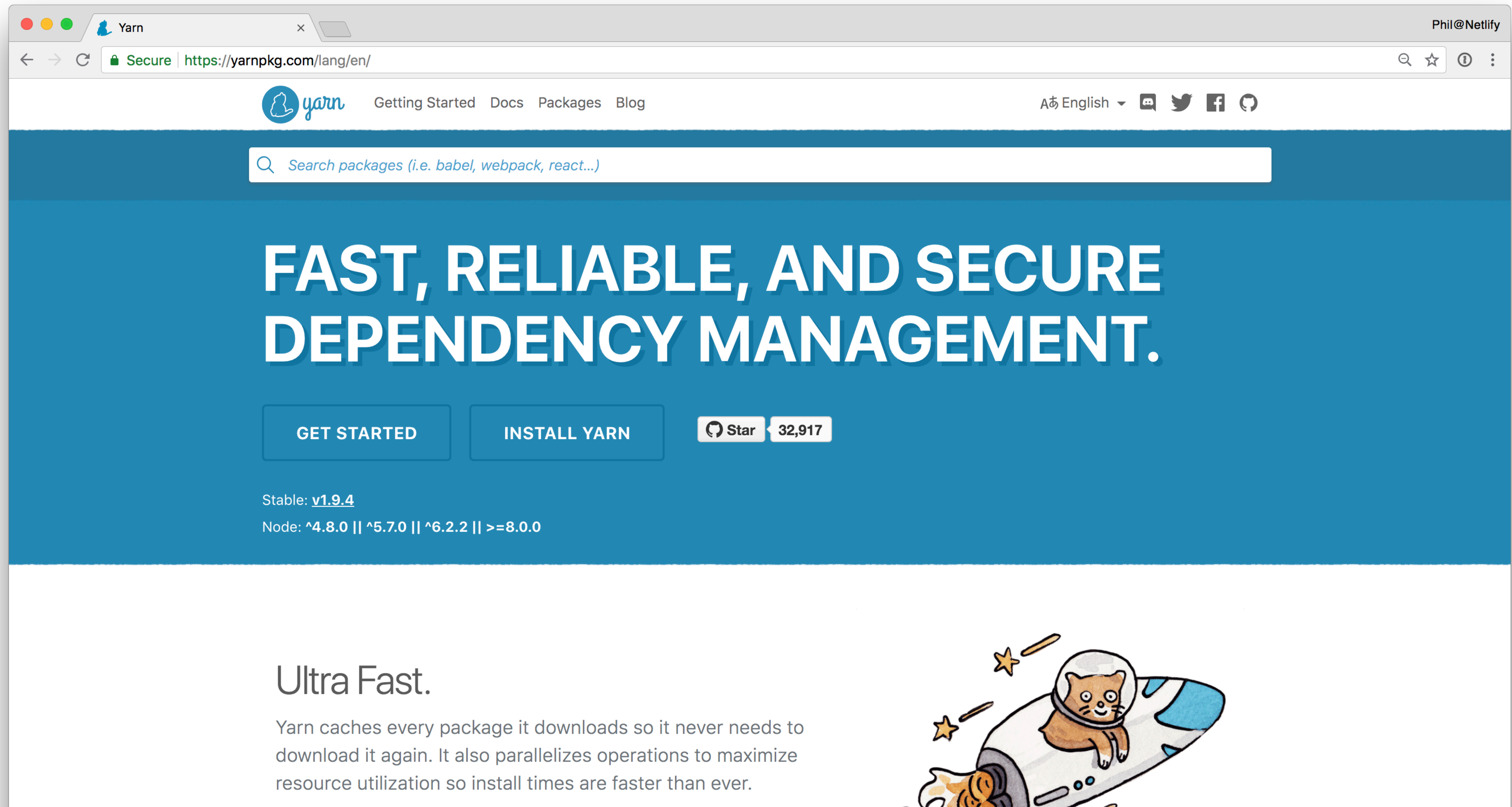
React can also render on the server using Node

# VUEJS.ORG

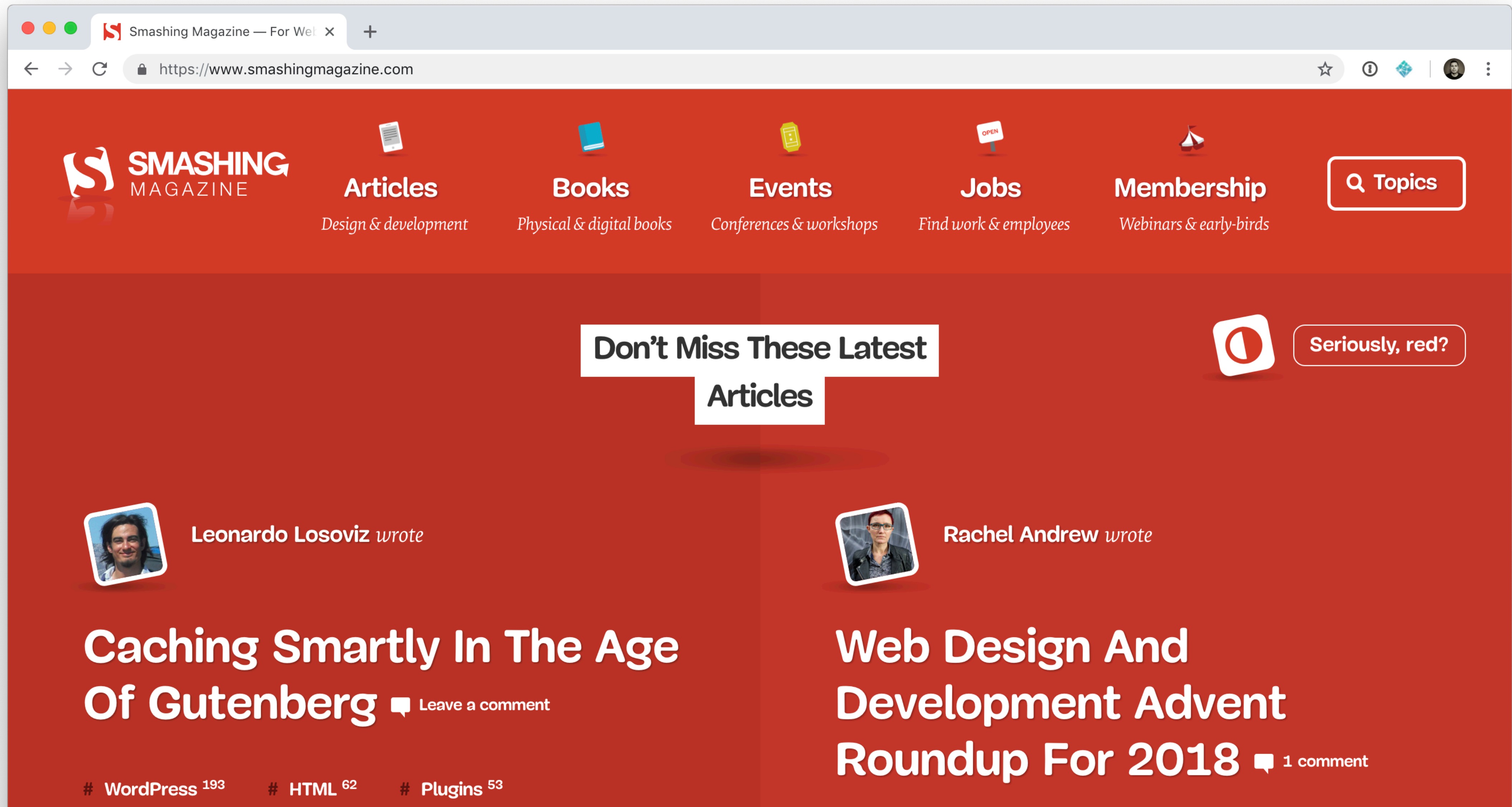




# YARNPKG.COM



# SMASHINGMAGAZINE.COM



The screenshot shows the Smashing Magazine website in a web browser. The browser's address bar displays "https://www.smashingmagazine.com". The website has a red header with the Smashing Magazine logo and navigation links: Articles (Design & development), Books (Physical & digital books), Events (Conferences & workshops), Jobs (Find work & employees), Membership (Webinars & early-birds), and a Topics search button. Below the header, a white box highlights "Don't Miss These Latest Articles". Two featured articles are shown: "Caching Smartly In The Age Of Gutenberg" by Leonardo Losoviz (WordPress 193) and "Web Design And Development Advent Roundup For 2018" by Rachel Andrew (HTML 62, Plugins 53, 1 comment). A "Seriously, red?" button is also visible.

Smashing Magazine — For Web x

https://www.smashingmagazine.com

**SMASHING**  
MAGAZINE

**Articles**  
Design & development

**Books**  
Physical & digital books


**Events**  
Conferences & workshops


**Jobs**  
Find work & employees

**Membership**  
Webinars & early-birds


**Topics**


**Don't Miss These Latest Articles**

 **Leonardo Losoviz** wrote

**Caching Smartly In The Age Of Gutenberg**  Leave a comment

# WordPress 193 # HTML 62 # Plugins 53

 **Rachel Andrew** wrote

**Web Design And Development Advent Roundup For 2018**  1 comment

**Seriously, red?**




# APP.NETLIFY.COM

Overview | hawksworx

https://app.netlify.com/sites/hawksworx/overview

☆ ⓘ

👤 ⋮

 Netlify demo team > hawksworx

Overview

Deploys

Functions

Identity

Forms

Split Testing

Settings

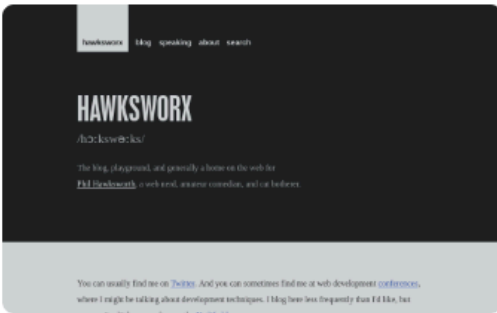
hawksworx

<https://www.hawksworx.com>

Deploys from [GitHub](#). Last published on Dec 4.

⚙ Site settings

⚙ Domain settings



🔑 Production deploys

Production: master@HEAD **PUBLISHED**

Dec 4: No deploy message

Production: master@HEAD

Dec 4: Deploy triggered by hook: Twitter activity trigger

Production: master@HEAD

Dec 3: Deploy triggered by hook: Twitter activity trigger

🔗 Deploy Previews

Deploy Preview #10: philhawsw... @555ed81

Aug 30: Update speaking.yml

Deploy Preview #9: philhawsw... @ad69bf0

Aug 30: added Vue London to speaking

Deploy Preview #9: philhawsw... @bb90e4c

Aug 30: added Vue London to speaking



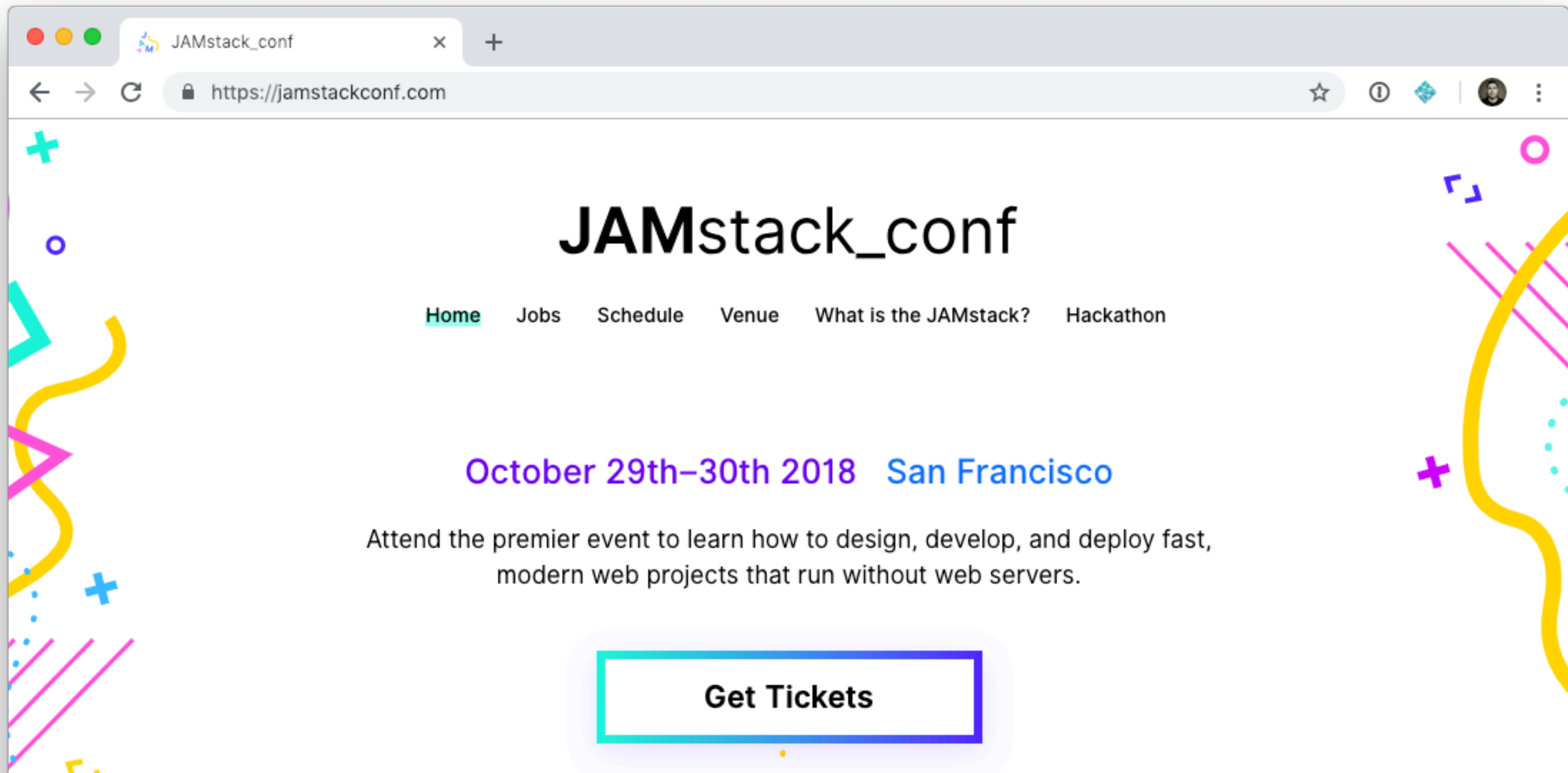


# NETLIFY.COM IS A JAMSTACK SITE HOSTED ON NETLIFY USING NETLIFY TO NETLIFY NETLIFY



# FINDTHAT.AT/CONF

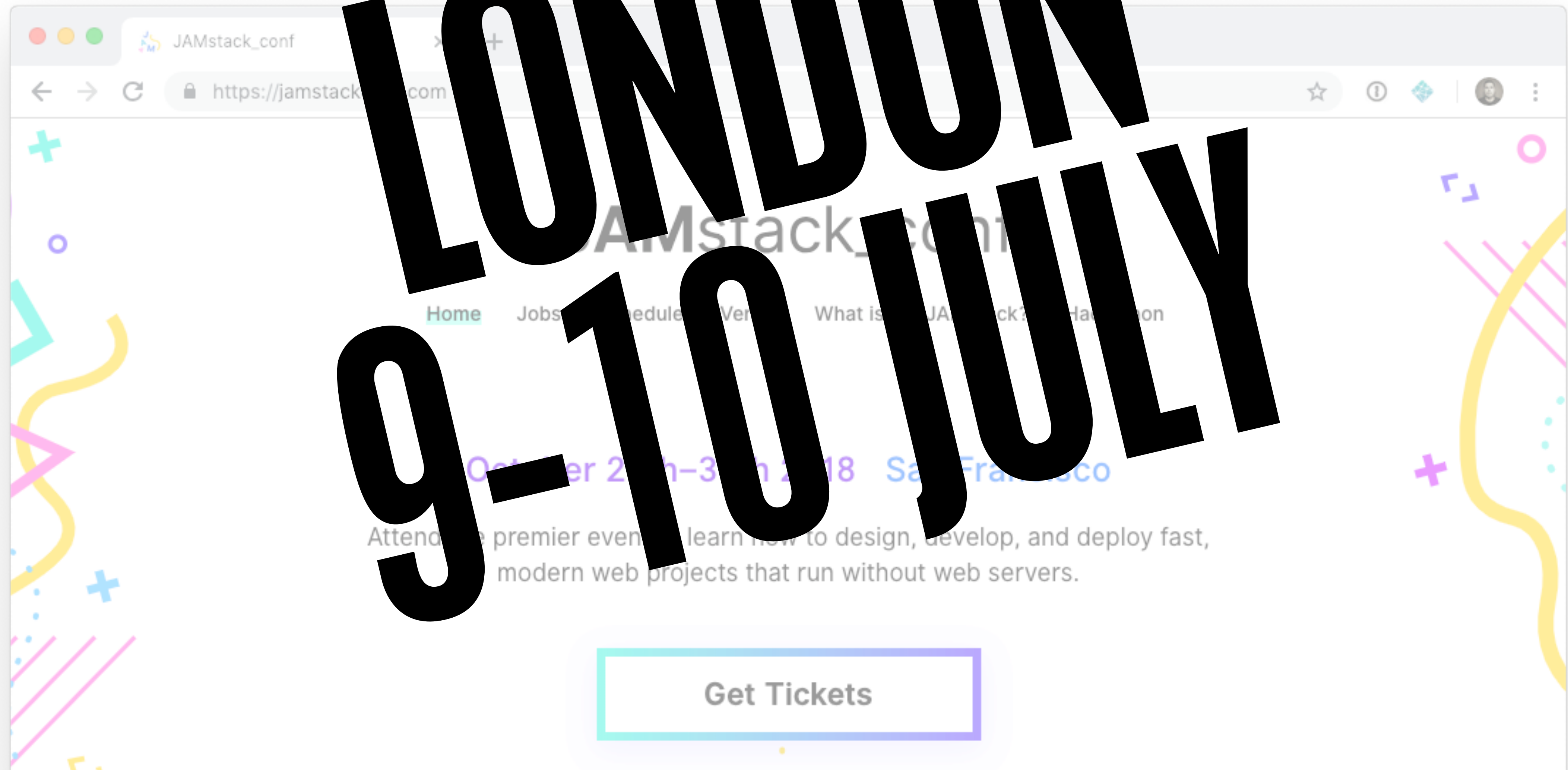
<https://jamstackconf.com>



# FINDTHAT.AT/CONF

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# STATIC SITE GENERATORS

staticgen.com

# NETLIFY

www.netlify.com

# SET YOUR WATCH - FRICTION FREE DEPLOYMENTS

<https://www.netlify.com/blog/2018/08/02/exploring-the-potential-of-friction-free-deployments/>

# ONE-CLICK TEMPLATES

templates.netlify.com

# PHIL'S OWN JAMSTACK SITE

hawksworx.com

# HEADLESS / DECOUPLED CMS

headlesscms.org

# ABOUT THE JAMSTACK / COMMUNITY

jamstack.org

# THE NEW DYNAMIC

www.thenewdynamic.org/



# THANKS

FINDTHAT.AT/OGNJAM

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