NEXT WAVE INFRASTRUCTURE
FOR AN EASIER LIFE

PHIL HAWKSWORTH
HELLO
REALTIME FINANCIAL DATA
SHIPPING INSURANCE
the

DREAM

CRUSHER
MAKING THINGS
MY TRACK RECORD
I CAN SMELL YOUR CMS

STATIC SITES
GO ALL HOLLYWOOD
FRONTEERS, AMSTERDAM, 2015
SO, FOR THIS TALK
TIME TO JAZZ IT UP
NEXT WAVE INFRASTRUCTURE
FOR AN EASIER LIFE

PHIL HAWKSWORTH
NEXT WAVE INFRASTRUCTURE
FOR AN EASIER LIFE

PHIL HAWKSWORTH
EXOTIC OR NEW
FUNDAMENTALS
WE LEARN A LOT AT CONFERENCES

~150 talks ?!
CONFINING THESE LEARNINGS TO THEORY IS A WASTE
Confining these learnings to our local environments is a waste.
LET’S MAKE SURE
THE GOOD STUFF
REACHES YOUR USERS
MINDSET
PROCESS
OH GREAT...
40 MINUTES OF SLIDES
ABOUT PROCESS

ALL OF YOU, RIGHT NOW
FOR THE NEXT 40 MINUTES OR SO

WHERE DOES IT HURT?

3 STORIES

MINDSETS AND RESOURCES
FOR THE NEXT 40 MINUTES OR SO

/ WHERE DOES IT HURT?
/ 3 STORIES
/ MINDSETS AND RESOURCES
WHERE DOES IT HURT?
PROJECTS USUALLY INVOLVE

CLIENTS / DEADLINES / COMPLEXITY
SLEEPLESS NIGHTS
THE PERFECT PROJECT TIMELINE

1. BRIEF
2. START
3. SCOPE
4. RE-SCOPE
5. CLIENT REVIEW
6. “FINAL” SIGN OFF
7. LAUNCH
8. AWARDS
9. FIXES
NEWSFLASH

PROJECTS CAN BE HARD
PROJECTS USUALLY INVOLVE LEARNING
PROJECTS USUALLY INVOLVE CHANGE
INFRASTRUCTURE
OUR EVOLVING APPROACH TO INFRASTRUCTURE

ON SITE HARDWARE

SOME RACK SPACE

VIRTUAL SERVER

SOFTWARE AAS

FUNCTIONS AAS

(not Rackspace)

(perhaps Rackspace)
NEW DEPLOYMENT
CONVENTIONS
APPROACH
THIS IS WHERE IT HURTS

MANAGING CHANGE

MANAGING THE UNKNOWABLE
THIS IS WHERE IT HURTS

AT CRUNCH TIME,
AS THE PRESSURE MOUNTS
FOR THE NEXT 40 MINUTES OR SO

/ WHERE DOES IT HURT?
/ 3 STORIES
/ MINDSETS AND RESOURCES
Story one

DEPLOYING ON MY FIRST DAY
A LARGE NATION-WIDE HEALTHCARE SITE
IT SHOULD HAVE GONE LIVE ON FRIDAY

MY NEW BOSS
CAN YOU HELP THE TEAM FIGURE OUT THE DEPLOYMENT?

MY NEW BOSS
THE PERFECT PROJECT TIMELINE

- BRIEF
- START
- RE-SCOPE
- CLIENT REVIEW
- LAUNCH
- AWARDS

“FIGURE OUT” DEPLOYMENT

“FINAL” SIGN OFF

FIXES

SCOPE
THE DEPLOYMENT
STAGING

BOB

ALICE

PROD
Next wave infrastructure
We Are Developers. 2018
@philhawksworth

FFFFFFFFFFFTP
UNKNOWABLE STATE
UNREPEATABLE PROCESS
DID IT GO LIVE?

YES, IT DID

WAS IT CORRECT?

YES.

PROBABLY.

HONESTLY, I DON’T THINK WE CAN REALLY KNOW
HOW DID THE NEXT DEPLOYMENT GO?

I'M NOT READY TO TALK ABOUT THAT

DO YOU NEED A HUG?

YES. YES I DO
Lessons

VERSION CONTROL SHOULD EXTEND TO YOUR DEPLOYMENTS

HUMAN INTERVENTION IN DEPLOYMENTS IS UNDESIRABLE

HOLISTIC DEPLOYS ARE PREFERABLE TO PIECEMEAL DEPLOYS
Story two
SEARCHING FOR SYRIA
LOTS OF CHANGE
SIGNIFICANT POLITICAL SENSITIVITY
GREATER STAKEHOLDER DIVERSITY
A GLOBAL LAUNCH
DELIVERIES
DELIVER to QA
DELIVER to PRODUCERS
DELIVER to TRANSLATIONS TEAMS
DELIVER to THE CLIENT
DELIVER to THE CLIENT’S BOSSES
DELIVER to THE PUBLIC
LET’S DELIVER ANY VERSION AT ANY TIME

OUR AMBITION
VERSION CONTROL
TAGS SHOULD CREATE RESOURCES AT URLS
URLS FTW
AITCH TEE TEE PEE
DOUBLE MEH

ALEX SEXTON
TAGS SHOULD CREATE RESOURCES AT URLs
<table>
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<th>Status</th>
<th>Traffic Allocation</th>
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<tr>
<td>20160525t161638</td>
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</tbody>
</table>
DEMONS / DISCUSSIONS
TESTS / ISSUES / SIGNOFF

ALL HAPPENED AGAINST KNOWN VERSIONS
Lessons

ADDRESSABLE AND ACCESSIBLE BUILD VERSIONS ARE A HUGE WIN

DECIDING WHEN AND WHAT TO TAG REQUIRES COORDINATION

IMMUTABLE DEPLOYS TO PROD REMOVE UNCERTAINTY FROM LAUNCH DAY
Story three

NETLIFY BUILDING NETLIFY
NETLIFY.COM IS A JAMSTACK SITE HOSTED ON NETLIFY USING NETLIFY TO NETLIFY NETLIFY
A GIT-BASED WORKFLOW
ALL THE WAY TO PRODUCTION
APIs → MARKUP → JAVASCRIPT → SITE

(JAVASCRIPT)
BUILDS ARE BASED ON GIT COMMITS, SO WE HAVE HISTORY
Next wave infrastructure

We Are Developers. 2018

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APIs

MARKUP

JAVASCRIPT

SITE

(JAVASCRIPT)
AUTOMATION BASED ON GIT ACTIVITY
GENERATING PREVIEWS FROM PULL REQUESTS
This is a temporary fix to our current blog page. I had some trouble navigating our current codebase, so the CSS ain't pretty, nothing about this is pretty, but I believe that it's still an improvement.

Just like what I did with the CMS back in May, this is not to be seen as a well thought out effort, more of a temporary fix until we can address the problem properly...

... and what is the problem? In my opinion our current blog page lacks proper contrast and typography hierarchy, super thin title on top of a busy background, headers smaller than the body text, lack of hover states in links etc...

Before
CONFIDENCE IN THE FUTURE STATE
VERSION CONTROL SHOULD EXTEND TO YOUR DEPLOYMENTS

PHIL, 20 MINUTES AGO
OUR EVOLVING APPROACH TO INFRASTRUCTURE

- **ON SITE HARDWARE**
- **SOME RACK SPACE** *(not Rackspace)*
- **VIRTUAL SERVER** *(perhaps Rackspace)*
- **SOFTWARE AAS**
- **FUNCTIONS AAS**
OUR EVOLVING APPROACH TO INFRASTRUCTURE

ON SITE HARDWARE

SOME RACK SPACE (not Rackspace)

VIRTUAL SERVER (perhaps Rackspace)

SOFTWARE AAS

FUNCTIONS AAS
No description, website, or topics provided.

Add topics

9 commits
2 branches
0 releases
2 contributors

Branch: master
New pull request

biilmann Update dependencies

public
First commit
6 months ago

src
Add demo of calling a lambda
6 months ago

.gitignore
First commit
6 months ago

README.md
Add deploy button
2 months ago

netlify.toml
Update build dir
6 months ago

package.json
Update dependencies
a month ago

yarn.lock
Update dependencies
a month ago

README.md
A SERVERLESS WORKFLOW

which works

👍 POWERED BY VERSION CONTROL ACTIONS
👍 AUTOMATICALLY GENERATING VERSIONED LAMBDAS
👍 IMMUTABLE DEPLOYMENTS
👍 INSTANT PROVISIONING OF UNLIMITED STAGING ENVIRONMENTS
Lessons

EMBRACING VERSION CONTROL CONVENTIONS REMOVES NEED TO REINVENT THEM

REDUCED FRICTION BRINGS AGILITY AND CONFIDENCE

JAMSTACK GOES BEYOND STATIC SITES
FOR THE NEXT 40 MINUTES OR SO

/ WHERE DOES IT HURT?
/ 3 STORIES
/ MINDSETS AND RESOURCES
RESOURCES

CIRCLE CI

Build faster. Test more. Fail less.

Automate the software development process using continuous integration and continuous delivery so you can focus on what matters: building great things, not waiting for great things to build.

Start Building for Free  Explore the Docs

JENKINS

Say “hello” to Blue Ocean

Blue Ocean is a new user experience that puts Continuous Delivery in reach of any team — without sacrificing the power and sophistication of Jenkins.

Get started
Best Practices

When building JAMstack projects, you can really get the most out of the stack if you stick to a few best practices.

☐ **Entire Project on a CDN**

Because JAMstack projects don’t rely on server-side code, they can be distributed instead of living on a single server.

Serving directly from a CDN unlocks speeds and performance that can’t be beat. The more of your app you can push to the edge, the better the user experience.

☐ **Everything Lives in Git**

With a JAMstack project, anyone should be able to do a git clone, install any needed dependencies with a standard procedure (like npm install), and be ready to run the full project locally. No databases to clone, no complex installs.

This reduces contributor friction, and also streamlines testing and continuous integration.

☐ **Modern Build Tools**

Take advantage of the world of modern build tools. It can be a jungle to get oriented in and it’s a fast moving space, but you’ll want to be able to use tomorrow’s web standards today without waiting for tomorrow’s browsers. And that currently means Label, PostCSS, Webpack and friends.
MINDSETS
VERSION CONTROL For EVERYTHING
A NOTE ON DEPLOYMENT

1. MAKE IT SCRIPTED
2. MAKE IT AUTOMATED
3. MAKE IT REAL
4. MAKE IT FIRST
EXPECT TIMES OF CHAOS
DON’T LET A POOR PROCESS BE WHAT CREATES IT
A NOTE ON EXPERTISE

IT’S AN AWFULLY FULL STACK
A NOTE ON EXPERTISE

USE THE SKILLS OF OTHERS