



# Automation, Innovation and ContinuousDev

@MarioCruz  
Cofounder & CTO  
ChooseDigital.com

June 18, 2014

#jenkinsconf

## My Career



Jobs:

- Network Engineer (lots of certs)
- Developer (lots of code)
- IT Operations (lots of lost Sleep)
- IT Security (lots of Smoke & Mirrors)

Experience

Hacking, Networking, Developer, Ops &

# NOW Pointy Haired Boss



## CHOOSE DIGITAL



### Music

- Over 7 million music download tracks (MP3's) from all the major record labels and leading independents. Tracks sync seamlessly with iTunes and Windows Media personal music libraries.



### Movies

- Movies from the major studios and independents are available for rental or purchase. The site features new release titles. Purchases are streamed from a personal digital locker incorporated into the platform and can be viewed on most browser enabled devices without the need to download a player.



### TV Shows

- Season passes and individual episodes for the major TV networks.



### eBooks

- Over 400,000 eBooks that can be read on most browser based devices. Audiobooks in MP3 format.



# Some brands that use CHOOSE DIGITAL



## Technology Solutions



**Viggle Store**

1466 points

Home Top Albums Top Songs How To Download Music My Orders Search...

**New Music** see more

Alternative Gospel/Christian Classical Country Electronic Rap Hip Hop Jazz Latin Pop R&B Rock

Platinum If/Then: A New Mus... Animal Ambition: A... Sorry I'm Late Me. I Am Mariah.....

Check In What's On Music Reviews

**JCPenney**

log in enter a new code

What's New Music Movies TV eBooks

Search...

**Digital Media from JC Penney: use your points for Music, Movies, TV, and eBooks**

gossip girl Random Access Memories Daft Punk DOWNLOAD NOW

**Top Songs** see all more

Can't Hold ... Wagon Wheel Mirrors I Want Crazy Gentleman Boys 'Roun... Get Lucky ... #thatPOWER Cruise Stay Sure Be

**Top Albums** see all more

**New and Noteworthy Movies** more

**UNITED** A STAR ALLIANCE MEMBER

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Home > MileagePlus > Digital Media Store

**Digital Media Store** MileagePlus UNITED

Sign in to see if you qualify for lower prices.

Search...

**Plus Digital Media Awards and TV shows.**

Red Taylor Swift NEW ALBUM

**more music**

Get On This Screen V... Screen & Shout Via Via Vision Don't Stop The Party Loveless Song Orion Just A Fool

**more music**

PITBULL KISS CLARKSON THERE UP Philip Phillips

**movies**

DAY MINDS VANCE WALKER ROCKY HORROR PICTURE SHOW DICKY GO

Outlets: Music Movies TV

Need help? Terms My Purchases

Find United on

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## Fan Boy



  
CloudBees

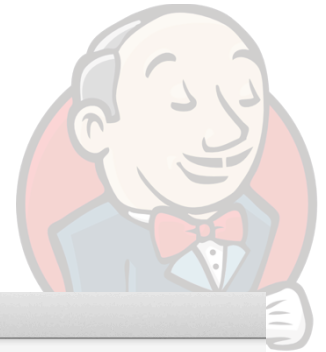




# *Build, Test & Deploy*



# When we push to a branch, a build is done



Dashboard [Jenkins]

https://choosedigital.ci.cloudbees.com

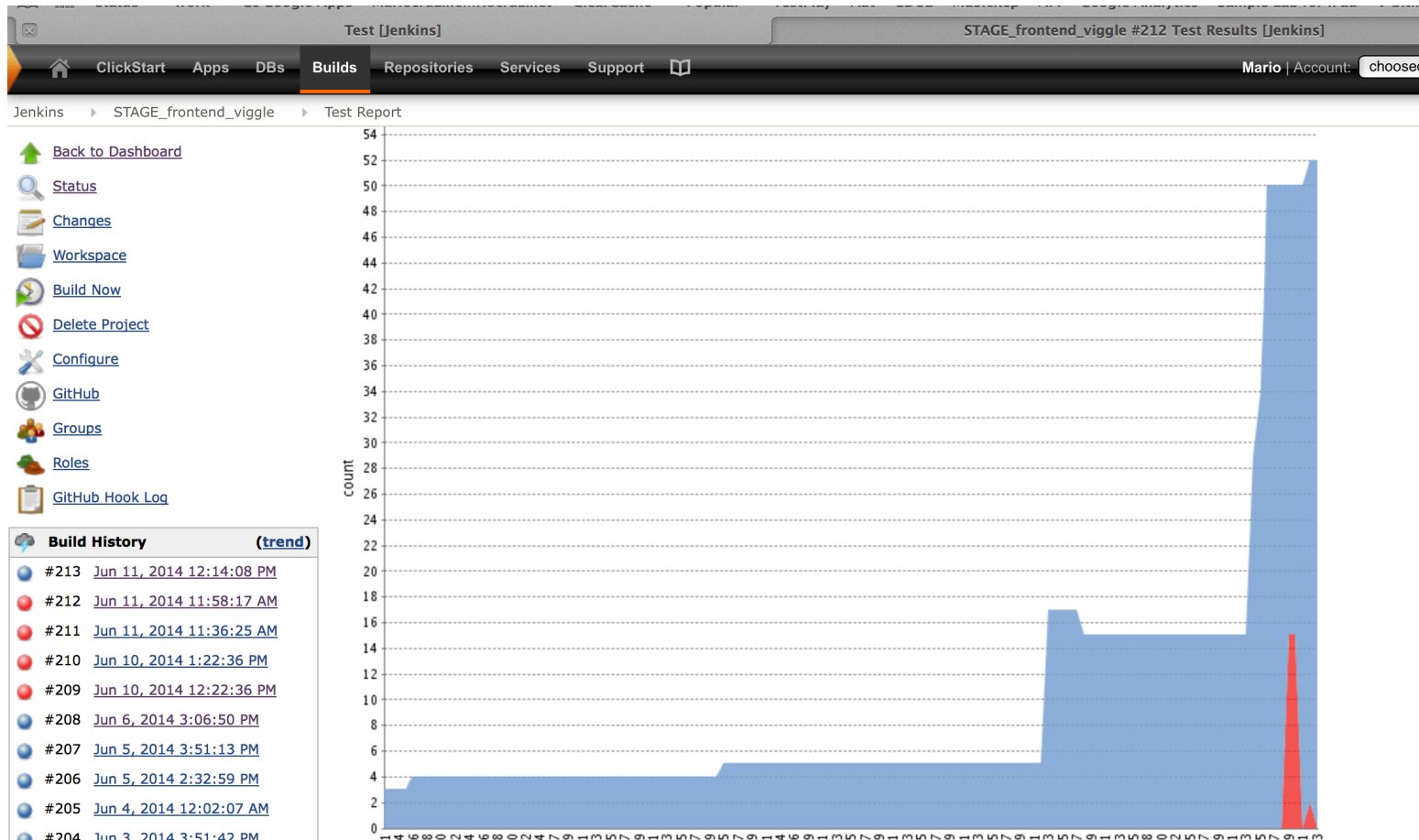
Google Apps | Mariocruz.net...riocruz.net | ClearCache ▾ | Popular ▾ | TestPlay | Adt | CDUL | MusicRep | API | Google Analytics | Sample Lab for

Dashboard [Jenkins] | STAGE\_frontend\_viggle #212 Test Results [Jenkins]

Builds | Repositories | Services | Support | Mario | Acco

All	+					
S	W	Name	Last Success ↑	Last Failure	Last Duration	
		<a href="#">PROD_tardis</a>	1 day 4 hr - <a href="#">#267</a>	1 mo 22 days - <a href="#">#249</a>	1 min 41 sec	
		<a href="#">STAGE_api</a>	1 day 17 hr - <a href="#">#411</a>	1 mo 7 days - <a href="#">#401</a>	8 min 2 sec	
		<a href="#">DEV_api</a>	1 day 23 hr - <a href="#">#716</a>	1 mo 0 days - <a href="#">#704</a>	8 min 14 sec	
		<a href="#">STAGE_frontend_united</a>	1 day 23 hr - <a href="#">#592</a>	N/A	4 min 29 sec	
		<a href="#">DEV_frontend_united</a>	1 day 23 hr - <a href="#">#935</a>	N/A	3 min 52 sec	
		<a href="#">STAGE_frontend_codeplay</a>	3 days 15 hr - <a href="#">#245</a>	25 days - <a href="#">#239</a>	8 min 32 sec	

# Run set of tests before each deploy






# When all tests pass, it is auto deployed




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Jenkins > STAGE\_frontend\_viggle > #213

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## Build #213 (Jun 11, 2014 12:14:08 PM)




### Changes

- fix test ([commit: 6b2e1295a15caa7c9dc9c027b794232daa4e4647](#)) ([detail](#))




### Started by GitHub push by darinpope

Started by user [Mario Cruz](#)




### This job spent:

- 2 min 15 sec waiting in the queue;
- 5 min 16 sec building on an executor;
- 7 min 31 sec total from scheduled to completion.




### Revision: 7239b7458ceaa0ec75d6847ab6cd362c7e26390

- origin/stage




### [Test Result](#) (no failures)



### Deployed to CloudBees RUN@cloud <http://viggle-stage.choosedigital.cloudbees.net>

Id: choosedigital/viggle-stage; Environment: run



### Deployed to CloudBees RUN@cloud <http://viggle-lv3.choosedigital.cloudbees.net>

Id: choosedigital/viggle-lv3; Environment: run

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# Developer Tries the Live Site



[Home](#) [Top Albums](#) [Top Songs](#) [How To Download Music](#) [My Orders](#)



[Alternative](#)

[Gospel/Christian](#)

[Classical](#)

[Country](#)

[Electronic](#)

[Rap](#)

[Hip Hop](#)

[Jazz](#)

[Latin](#)

[Pop](#)

[R&B](#)

[Rock](#)

[Soundtracks](#)

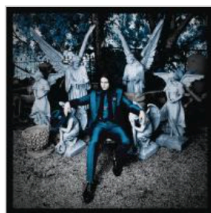


## FREE MUSIC DOWNLOADS

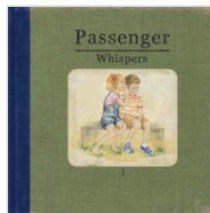
Download the Vigglegame app to get rewarded for all the music you're already listening to!

[LEARN MORE >](#)

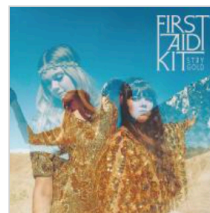
## New Music [see more](#)



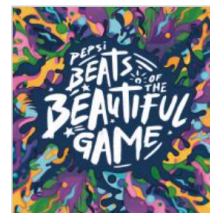
Lazaretto



Whispers (Deluxe)



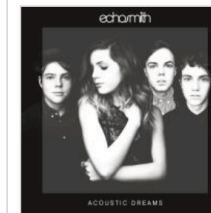
Stay Gold



Pepsi Beats Of The ...



22 Jump Street: Orig...



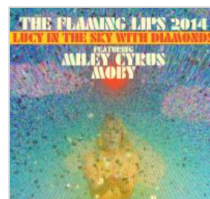
Acoustic Dreams



BACK TO THE EARTH  
JASON MRAZ



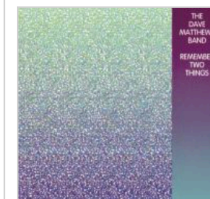
CHRISSE HYNDE  
Stockholm



THE FLAMING LIPS' 2014  
LUCY IN THE SKY WITH DIAMONDS  
FEATURING  
ANILAY CYROS  
MORAY



THE DAVE MATTHEWS BAND  
REMIKES  
TWO THINGS



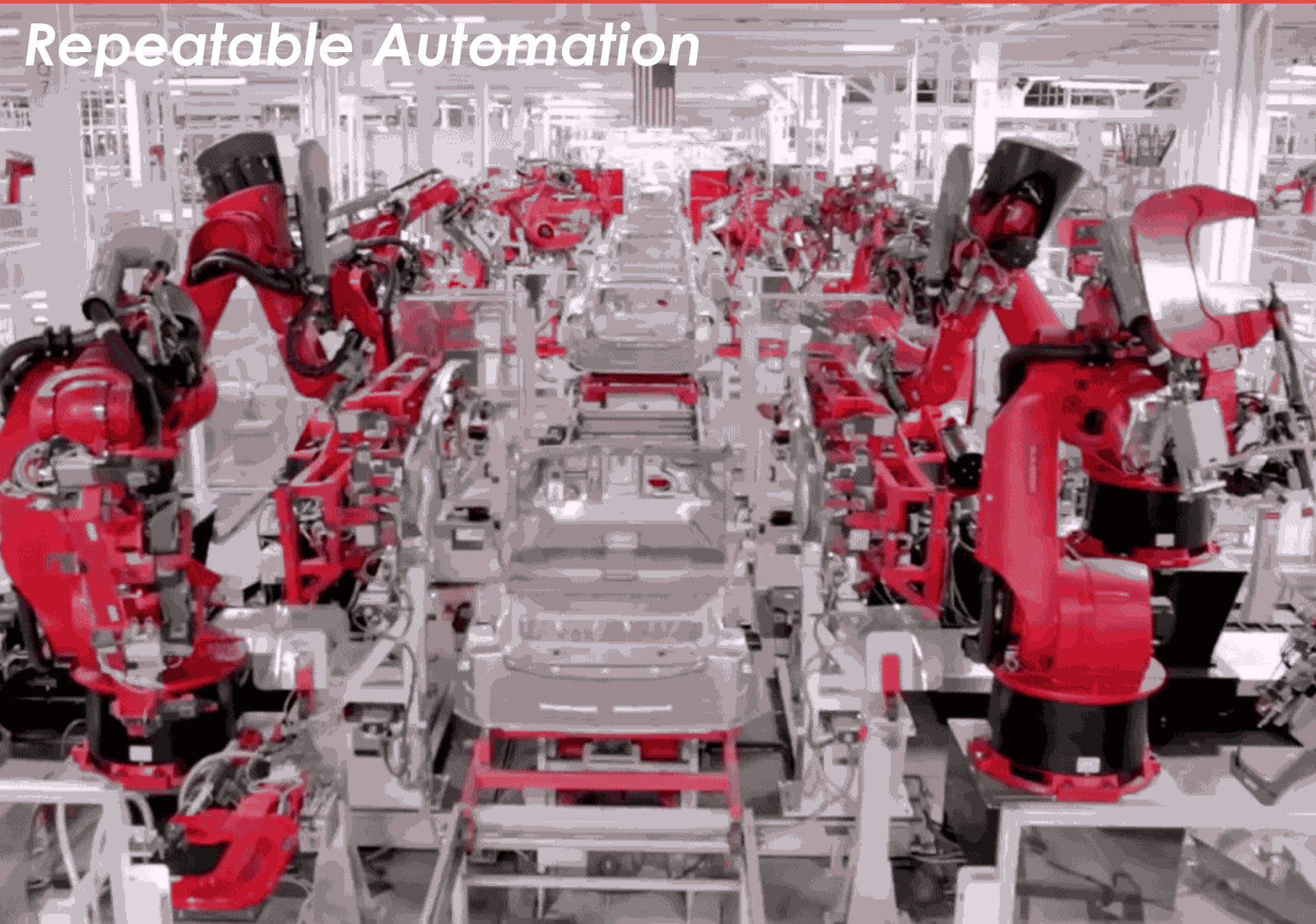
THE DAVE MATTHEWS BAND  
REMIKES  
TWO THINGS



EXPLICIT  
Think Like a Man  
MUSIC FROM & INSPIRED BY THE FILM



# Repeatable Automation





# *The next evolution of Continuous Delivery (You can't automate innovation.)*





# Developer Control



**Trust**





# Blameless Culture





**If software is eating the world, be a Chef**





Use providers for any services not core to  
your business

no matter how cheap





# Rid yourself of the Heavy Lifting





# CloudBees (Jenkins Differentiator)



- Heavy Lifting Not Done by Choose Digital

- DEV@Cloud

- Jenkins
    - Plugins
    - Upgrades



- RUN@Cloud

- Frictionless
    - Auto Scale
    - SSL



- New Relic

- Papertrail

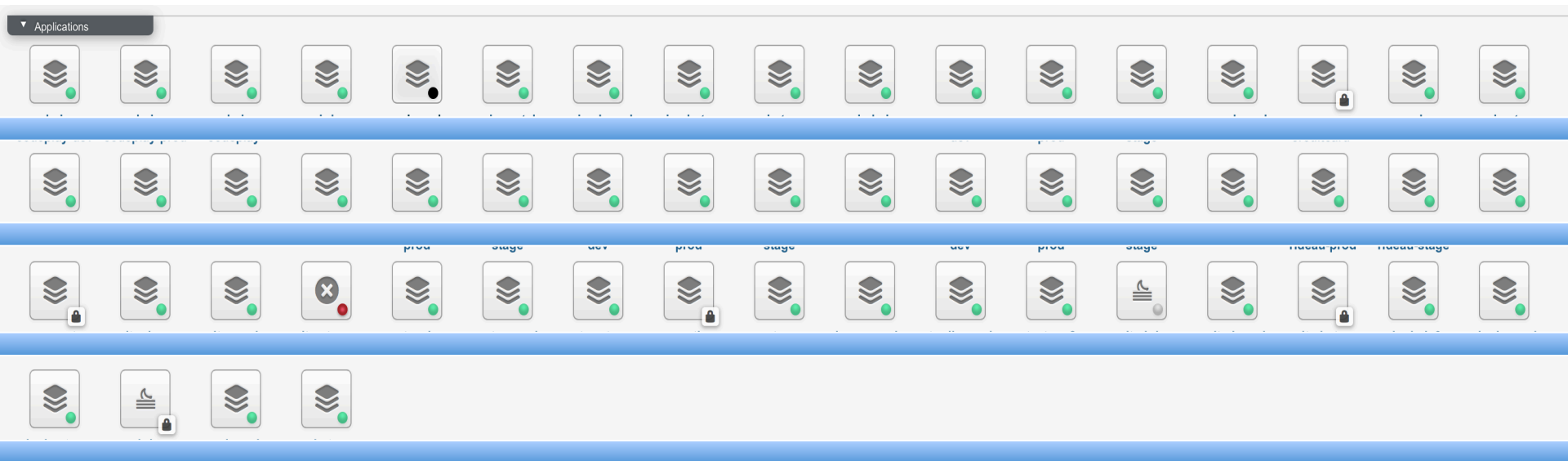
- SendGrid

## Other Partners

- AWS
  - S3
  - RDS
  - CloudSearch
  - DynamoDB
- Asana
- Trello
- Zendesk



## Over 55 Apps on RUN@Cloud



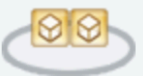


## Cloud Environment



### RUN@cloud

Full-scale application  
containers



### Dedicated Pools

Deploy to servers on  
your private account

## Application Container

Select a **ClickStack** for your application to run in.

Basic Java Webapp (Tomcat 6) ▾

Select the container size to provision for instances of your application.

☐ **Free (5 app limit!)**

Limited application instance, 256MB RAM, throttled concurrency, automatic hibernation.  
Free

☐ **Starter**

1 app-cell, 128 MB RAM  
\$0.019/hr (per instance)

☐ **Small**

2 app-cells, 256 MB RAM  
\$0.038/hr (per instance)

☐ **Medium**

4 app-cells, 512 MB RAM  
\$0.076/hr (per instance)

☒ **Large**

8 app-cells, 1024 MB RAM  
\$0.152/hr (per instance)

## Redundancy and Scale

Choose your application's cluster model (ensure your application is cluster friendly).

Automatic Scaling ▾

Minimum instances: 5 Instances ▾

Maximum instances: ▾

Measurement window: 2 Minutes ▾

Cool-down window: 15 Minutes ▾

Scale up when Response Time ▾ Average ▾ is Greater than ▾ 2000

Scale down when Response Time ▾ Average ▾ is Less than ▾ 1000

# Scale to 20 with the API



```
➔ ~ bees app:info delivery-prod
Application      : choosedigital/delivery-prod
Title            : delivery-prod
Created          : Sat Apr 14 10:14:47 EDT 2012
Status           : active
URL              : 
aliases          : 
clusterMaxSize   : 20
clusterMinSize   : 5
clusterSize      : 4
container        : java_large
containerType    : tomcat
hibernateTimeout : -1
maxMemory        : 1024
scaleOptions     : [{"calculation":"average","field":"request_processingTimePerRequest","timeWindow":120,"scaleType":"grow","value":2000,"scaleUnit":1,"comparator":"greater_than","coolDownSeconds":900}, {"calculation":"average","field":"request_processingTimePerRequest","timeWindow":120,"scaleType":"shrink","value":1000,"scaleUnit":1,"comparator":"less_than","coolDownSeconds":900}]
securityMode     : PUBLIC
serverPool       : stax-global (Stax Global Pool)
```

# Integration Ease



## New Relic RPM



New Relic RPM provides monitoring, troubleshooting, root cause diagnosis, plus pro-active planning tools such as capacity planning, scalability analysis, database usage analysis, Apdex scoring, and deployment history.

☒ **Enable New Relic RPM application monitoring**

[Learn more...](#)

## Papertrail Logs



Papertrail provides consolidated logging for your applications to help detect, resolve, and avoid infrastructure problems.

☒ **Enable Papertrail application logging**

[Learn more...](#)

# Log Everything (but let me turn it off)

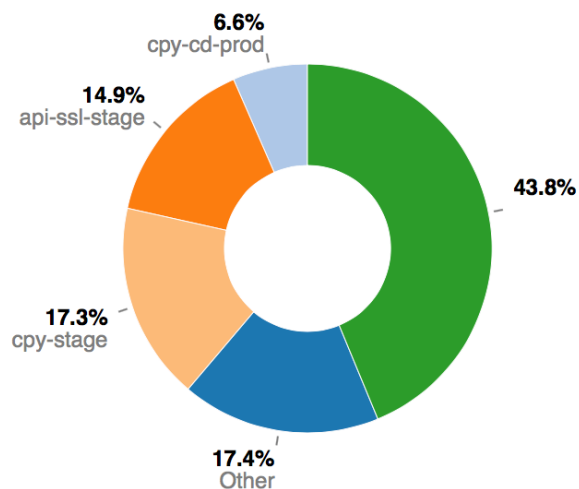


## All Systems

[Edit Settings](#)

**23,055,000 events**

last seen moments ago



### Searches

- All events >>
- Background jobs >>
- Exceptions >>
- HTTP 404s >>
- Notable errors >>
- Tomcat restarts >>

# Monitor Apps (it is a check box)

- Real User Monitoring

- End user perspective metrics
- Browser performance and response times
- Bottlenecks at FE, app or connected systems

- Performance Analytics

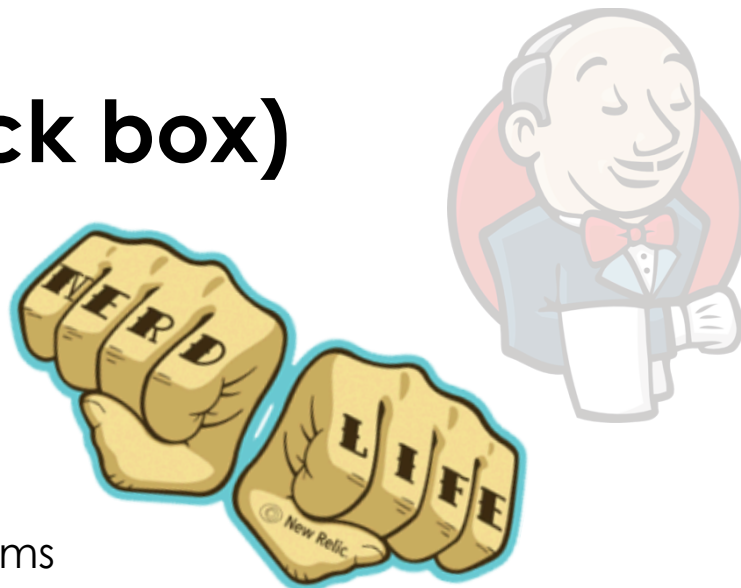
- Throughput
- Response Times
- Errors
- Slow Transactions
- SQL Performance
- Thread Profiler

- Server Monitoring

- CPU
- Memory
- Network activity
- Processes

- Reporting

- SLA
- Availability
- Deployments
- Scalability



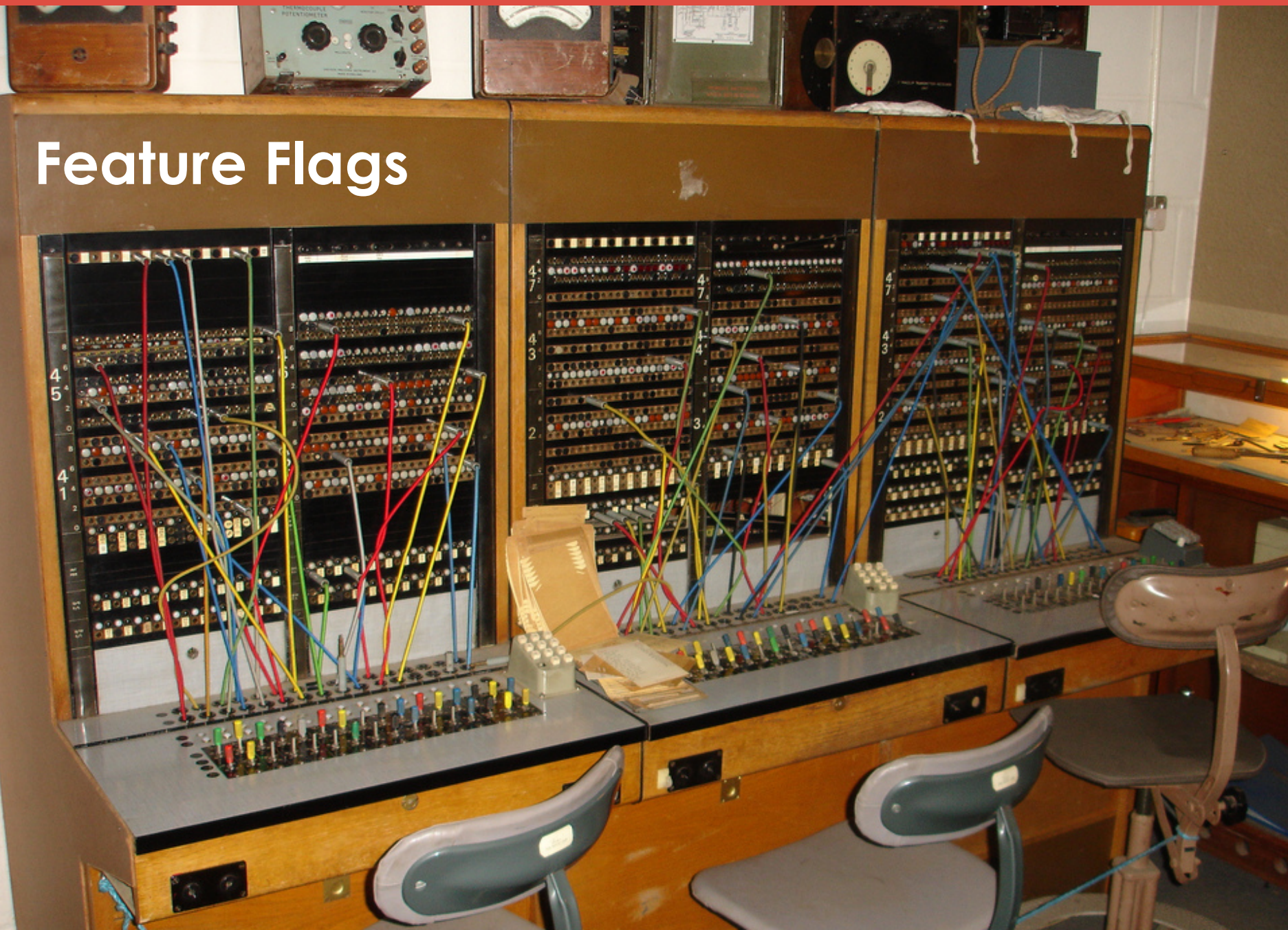


If you push code, you are on-call





# Feature Flags



# Feature Flags



1	active.audiobook	true
2	active.ebook	true
3	active.movie	true
4	active.music	true
5	active.television	true
6	active.gzip	false
7	music.purchase.subject	Music Order Confirmation
8	ebook.purchase.subject	Book Order Confirmation
9	audiobook.purchase.subject	Book Order Confirmation
10	movie.purchase.subject	Movie Purchase Confirmation
11	movie.rental.subject	Movie Rental Confirmation
15	active.facebook	true
16	active.twitter	true
17	active.googleanalytics	true
18	active.cache	true
19	active.maintenance	false
20	active.music.email.promo.active	false
21	active.movie.buy.email.promo.active	false
22	active.movie.rent.email.promo.active	false
23	active.television.email.promo.active	false
24	active.ebook.email.promo.active	false
25	active.audiobook.email.promo.active	false
26	active.television.splash	false
27	this.week.active	true
28	active.initial.purchase.credit	true



# one push > one build > Deploy to N



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[No Tags](#)  
[Test Result](#)  
[CloudBees RUN@cloud](#)  
[CloudBees RUN@cloud](#)  
[Previous Build](#)

## Build #213 (Jun 11, 2014 12:14:08 PM)

**Changes**

- fix test ([commit: 6b2e1295a15caa7c9dc9c027b794232daa4e4647](#)) ([detail](#))

**Started by GitHub push by darinpopo**  
Started by user [Mario Cruz](#)

**This job spent:**

- 2 min 15 sec waiting in the queue;
- 5 min 16 sec building on an executor;
- 7 min 31 sec total from scheduled to completion.

**Revision:** 7239b7458ceaa0ec75d6847ab6cd362c7e26390

- origin/stage

**Test Result** (no failures)

Deployed to CloudBees RUN@cloud <http://viggle-stage.choosedigital.cloudbees.net>  
Id: choosedigital/viggle-stage; Environment: run

Deployed to CloudBees RUN@cloud <http://viggle-lv3.choosedigital.cloudbees.net>  
Id: choosedigital/viggle-lv3; Environment: run

## Private Apps

### Please Sign in to Continue

The URL you have requested is part of a privately deployed environment.  
Please use your CloudBees credentials to sign in.

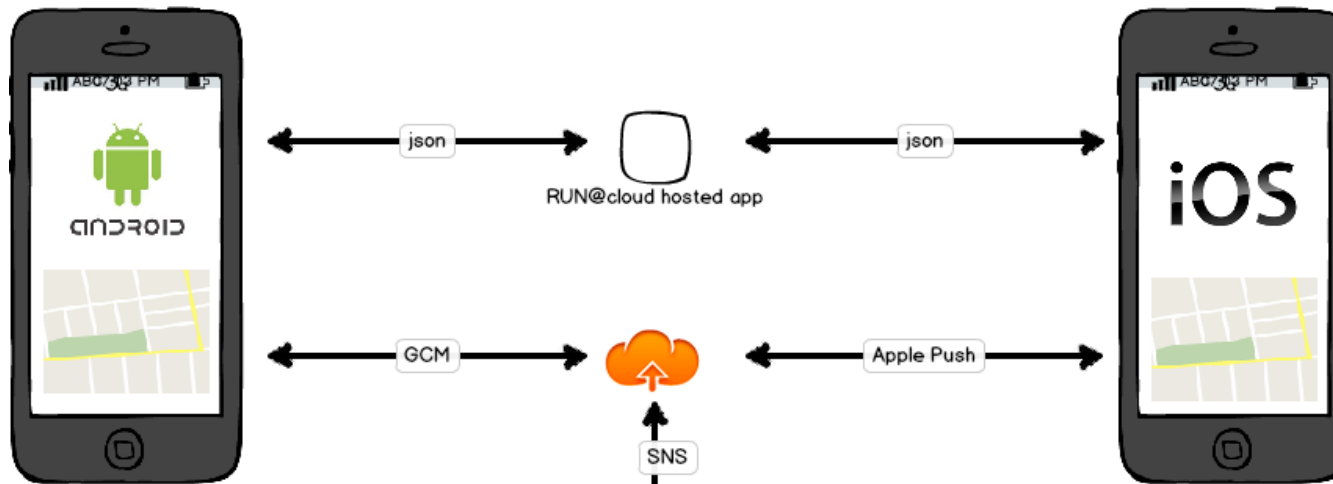
Username

Password

Sign in



# Mobile Builds

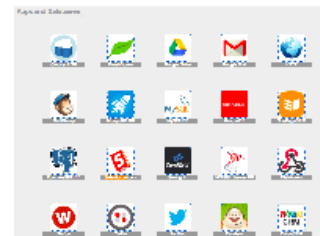


## Jenkins

[DEV@cloud](#)  
Hosted Jenkins.

Build iOS apps  
Build Android apps  
Build, test and deploy  
server apps

[WEAVE@cloud](#)  
monitor for changes  
transform data  
integrate



# Questions



# Thank You To Our Sponsors

## Platinum



## Gold



## Silver





## Photo Credits

- CloudBees Facebook (Remixed by Mario)
- <https://flic.kr/p/c1k71s>
- <http://www.fastcoexist.com/1682635/watch-robots-put-together-a-tesla>
- <https://flic.kr/p/7yahjS>
- <https://flic.kr/p/dHSy5h>
- <https://flic.kr/p/32vHr1>
- <https://flic.kr/p/3cYhVz>
- <https://flic.kr/p/5QjfB1>
- <https://flic.kr/p/4pnrSY>
- <https://flic.kr/p/cT1vnL>
- <https://flic.kr/p/6KCWqg>
- <https://flic.kr/p/dvhir>
- <http://mobilepaas.cloudbees.com>
- <https://flic.kr/p/b6WaSP>

