

ALL DAY DEVOPS

NOVEMBER 6, 2019

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Multi Cloud

“Day-to-Day”

DevOps Power Tools



Outline



Outline

1 Background

- Cloud
- Site Reliability Engineer & DevOps
- My Journey

2 Qualities

- Curiosity
- Ability to adapt quickly to change
- Ability to learn quickly
- Laziness

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- Package
- Deliver
- Platform
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SRE
Journey

Qualities
Curiosity
Adaption
Learn
Laziness

Support

Tools
Code
Package
Deliver
Platform
Monitor

Demo

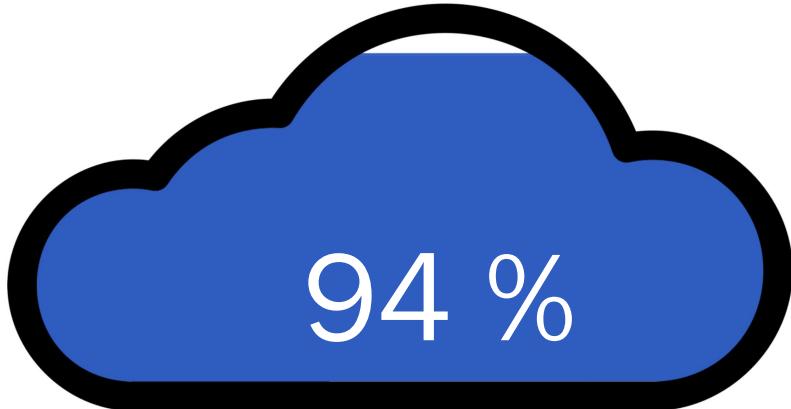
Conclusion

Background

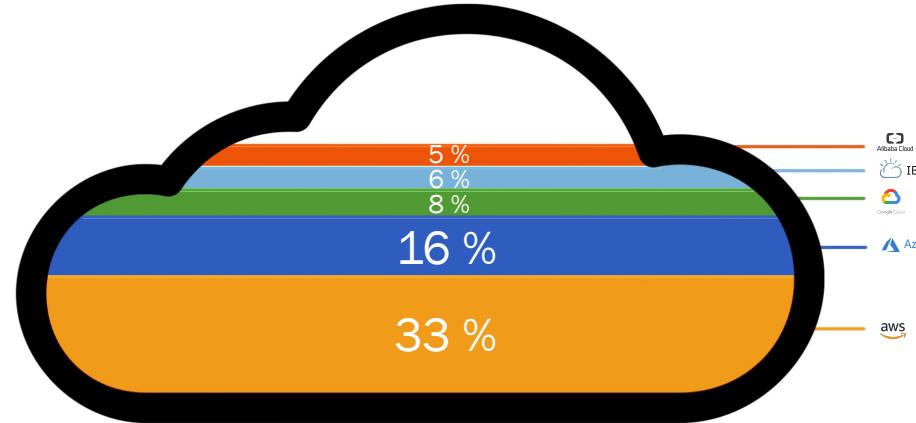


Background

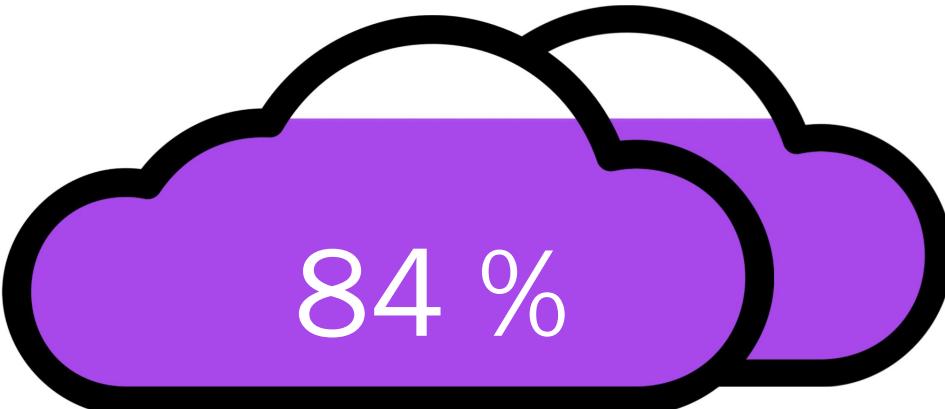
Cloud



Companies using public cloud



Cloud market share



Companies using multi cloud



Average number of clouds per enterprise

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Site Reliability Engineer & DevOps

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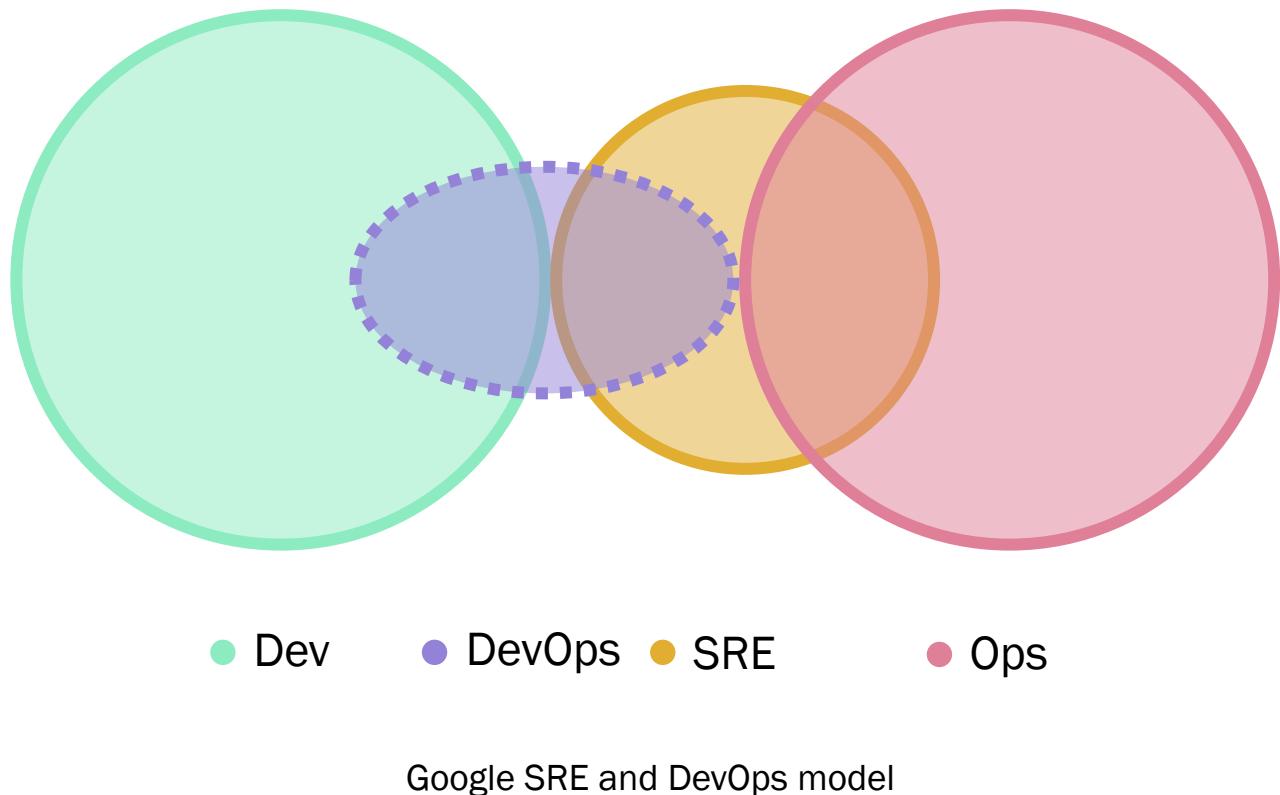
Support

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Conclusion

- Historical “walls” between teams
- SRE Implements DevOps
- SRE’s aim is to be irrelevant



Background

My Journey

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- Education
- Team
- Mentor

Qualities

Support



Tools

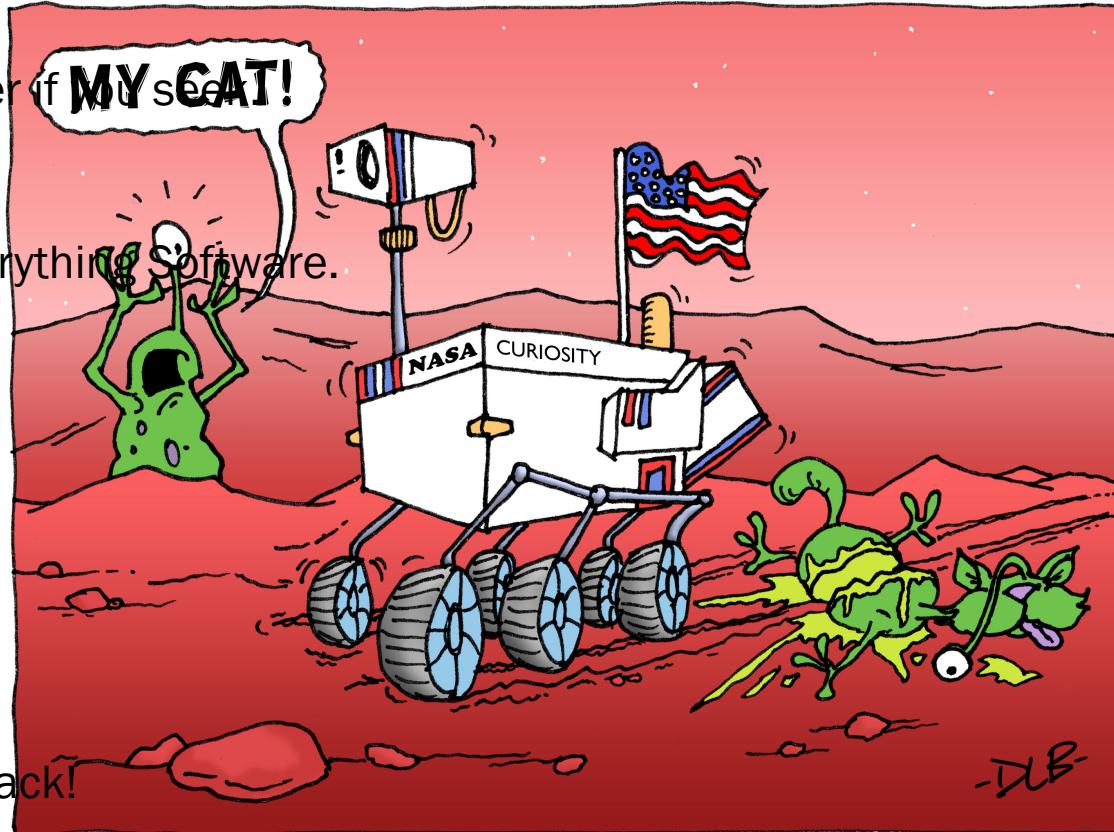
Qualities



Qualities

Curiosity

- You will only discover if **MY CAT!** exists.
- Be curious about everything Software.
- Stay up to date.
- Attend events.
- Prototype! Tinker! Hack!



Qualities

Ability to adapt quickly to change

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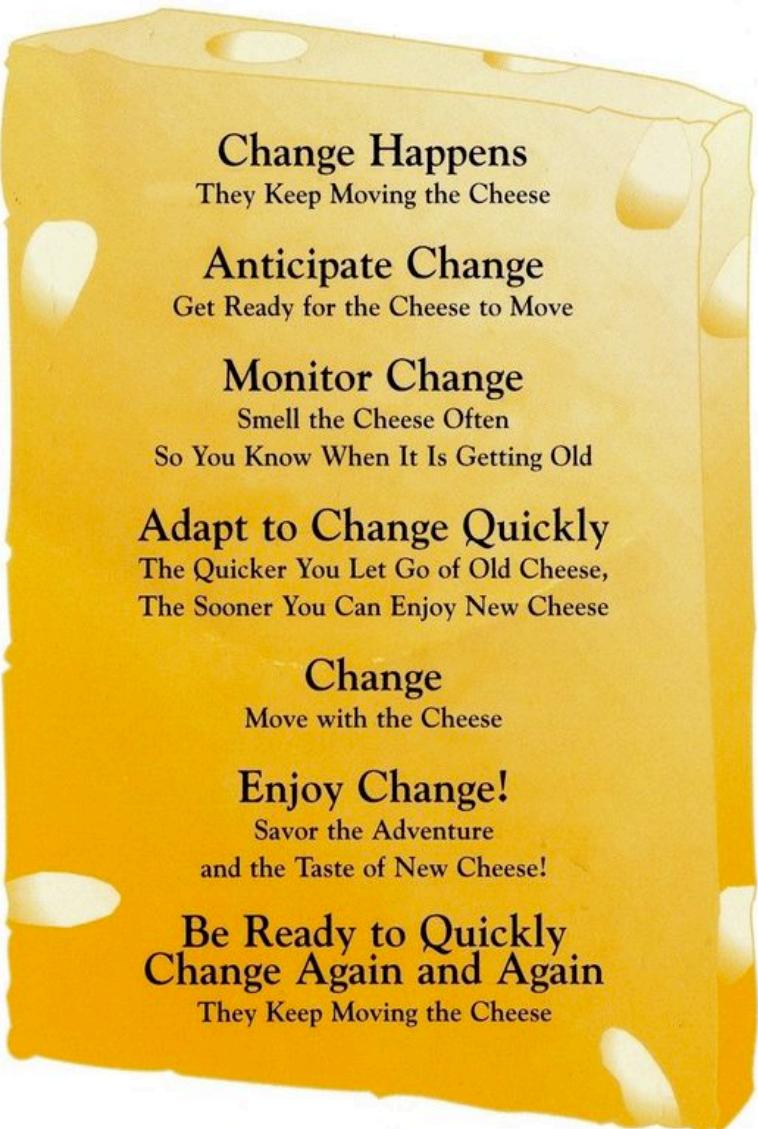
Deliver

Platform

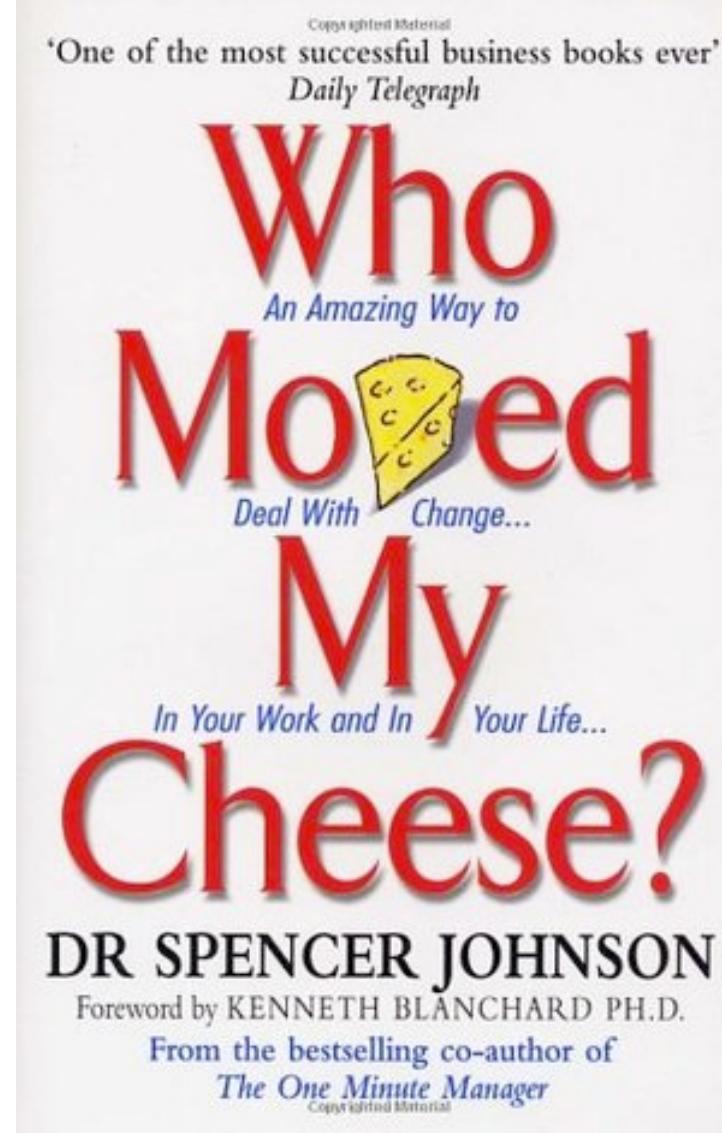
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Who Moved My Cheese?



Qualities

Ability to learn quickly

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- Compliments one's ability to adapt to change.
- Before you know it, what you have just learned will be irrelevant.
- Learn fast so you may promptly begin again.
- Enables you to evaluate Software rapidly.

Qualities

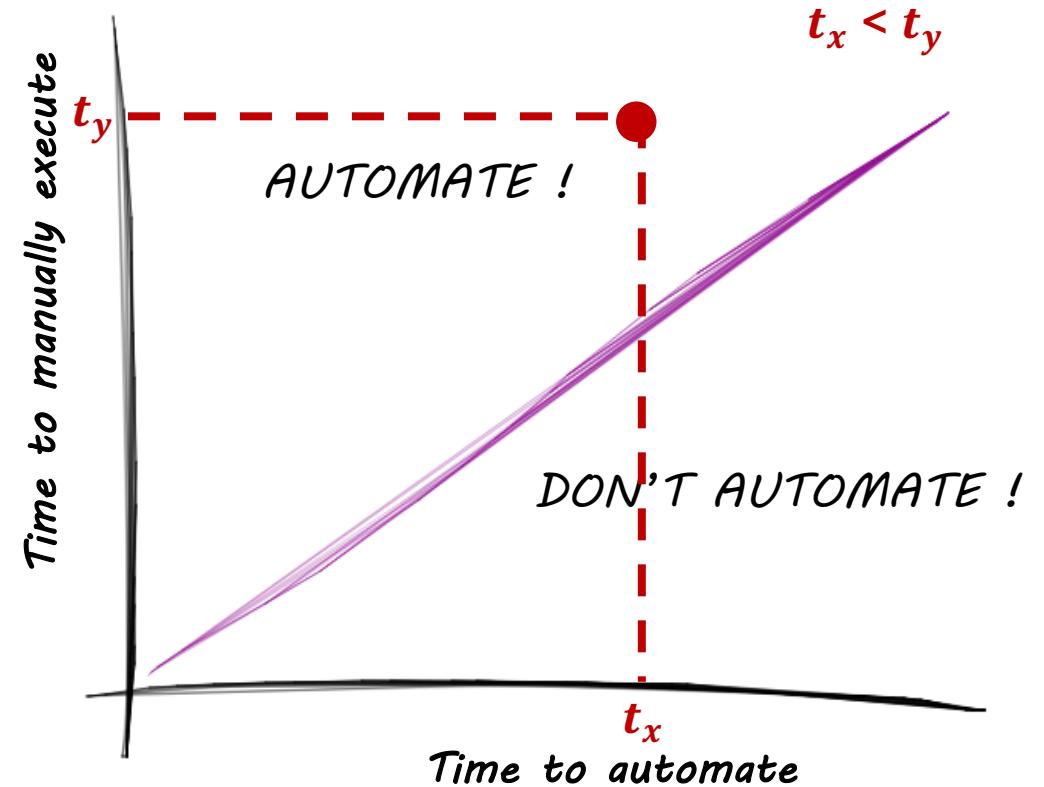
Laziness

“Whenever there is a hard job to be done I assign it to a lazy man; he is sure to find an easy way of doing it.”

Walter Chrysler

- SREs hate repeating tasks.
- Ask yourself: “Do I Automate?” (DIA)
- Automation is the most enjoyable part of the job.

Do I Automate?



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- Googling is an art form of its own.
- Beneficial not just in finding a specific answer, but discoveries along the way.
- Forums:
 - Stack Overflow
 - Github
 - Slack
- Daily stand-up
- Pay it forward. Pass on knowledge.

Doctors: Googling stuff online does not make you a doctor.

Programmers:



Tools



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Package



Deliver



Platform



Infrastructure



Configuration

Monitor



ZABBIX

Code



- Automation with a scripting language
- Most Software have an accompanying cli which is invoked with Bash
- Basis of all Unix based OSs
- Multi-cloud's best friend

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Package



- Package the code to run on any system, on any cloud.
- Configuration as code.
- Limits blame and phrases like; “but it works on my machine”.
- Docker is the most widely used containerisation Software

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Deliver



- Quickly and reliably deliver your code.
- Concourse is easily extendable with resources written in Bash.
- Consider setup and maintenance of the ci/cd backend. Helm is great!

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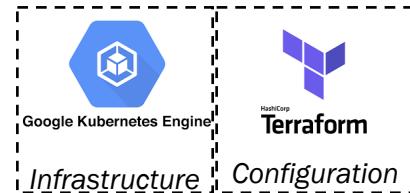
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Platform



- Where and how does your packaged code run.
- Container orchestration Software, Kubernetes, does the dirty work.
- Abstract lower level K8s knowledge from the SRE with GKE.
- Infrastructure as code with Terraform.
- We don't like the UI.

Tools

Monitoring / Logging

Kibana

Discover Visualize Dashboard Timeline Machine Learning Graph Dev Tools Monitoring Management

Popular

t_Boro t_Action #_Camis t_Condition t_Critical_Flag t_Dba t_Grade t_Inspection_Type t_Inspection_Date t_Inspection_Type t_Phone t_Record_Date t_Violation_Code t_Violation_Description #_Zipcode t_id _index

New Save Open Share Reporting November 1st 2012, 00:00:00.000 - March 17th 2016, 18:12:31.830 — Auto

Discover: Saved Data Source "NY"

NY 64 hits Score:>80 Boro: "MANHATTAN" Add a filter + nyc_restaurants November 1st 2012, 00:00:00.000 - March 17th 2016, 18:12:31.830 — Auto

Selected Fields: t_Address, t_Building, t_Cuisine_Description, #_Score

Available Fields: Popular t_Boro t_Action #_Camis t_Condition t_Critical_Flag t_Dba t_Grade t_Inspection_Type t_Inspection_Date t_Phone t_Record_Date t_Violation_Code t_Violation_Description #_Zipcode t_id _index

Count Inspection_Date per month

Time	Address	Building	Cuisine_Description	Score
March 2nd 2016, 16:00:00.000	54 THOMPSON ST MANHATTAN,NY	54	American	84
February 22nd 2016, 16:00:00.000	17 W 125TH ST MANHATTAN,NY	17	Ice Cr	
February 1st 2016, 16:00:00.000	10 WEST 4 STREET MANHATTAN,NY	10	Japan	
February 1st 2016, 16:00:00.000	2858 A C P JR BLVD MANHATTAN,NY	2858	Seafoo	
November 15th 2015, 16:00:00.000	745 9 AVENUE MANHATTAN,NY	745	Indian	
October 18th 2015, 17:00:00.000	75 AMSTERDAM AVE MANHATTAN,NY	726	Jewish	
August 18th 2015, 17:00:00.000	227 EAST 116 STREET MANHATTAN,NY	227	Mexica	
July 29th 2015, 17:00:00.000	5 CATHERINE STREET MANHATTAN,NY	5	Chines	
July 28th 2015, 17:00:00.000	509 AMSTERDAM AVENUE MANHATTAN,NY	509	Americ	
July 20th 2015, 17:00:00.000	3335 CATHERINE STREET MANHATTAN,NY	3335	Bakery	
June 7th 2015, 17:00:00.000	74 5 AVENUE MANHATTAN,NY	74	Americ	
June 2nd 2015, 17:00:00.000	115 BROADWAY MANHATTAN,NY	115	Sandwi	
May 20th 2015, 17:00:00.000	117 W 47TH ST MANHATTAN,NY	417	Mexica	
April 21st 2015, 17:00:00.000	343 GRAND ST MANHATTAN,NY	343	Pizza	
April 20th 2015, 17:00:00.000	127 W 56TH ST MANHATTAN,NY	127	Thai	
March 4th 2015, 16:00:00.000	89 E BROADWAY MANHATTAN,NY	89	Chinese	

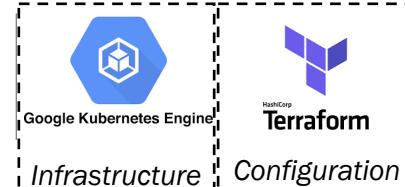
Monitor



- ELK is scary! Its OK to use managed solutions.
- Stay ahead of the storm. Monitor everything!
- Know what you are actually monitoring. Work closely with Devs.
- You need to know the problem before you begin with the solution
- Reliability is literally in your title. Set alerts!

<https://www.prot-on.com/monitoring-via-syslog-and-the-prot-on-soc-service>

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Demo

<https://github.com/Darillium/addo-demo>



- 84 % of all companies use an average of 4.9 cloud platforms.
- SREs implement DevOps and aim to be irrelevant.
- Be curious! Be lazy! Learn fast! Adapt fast!
- Super SREs seek assistance when necessary.
- A single power tool can be defined for each of five key areas I deal with on a day-to-day basis tackling multi cloud.
 - Code → Bash
 - Package → Docker
 - Deliver → Concourse
 - Platform → GKE & Terraform
 - Monitor → GCP Stack Driver
- Solving problems is fun! Helping others is fun! DevOps is fun!

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Sponsors

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Questions?

