

Automation and DevOps

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AGENDA

Introduction

Goals of this talk

How it all was

Status quo

DevOps

Automation

Future outlook

Summary

END

Q & A



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GOALS OF THIS TALK



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We will talk mainly about Automation and DevOps in:



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We will talk mainly about Automation and DevOps in:

- ▶ IT Operations (mostly web applications)



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- ▶ **Development**



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We will talk mainly about Automation and DevOps in:

- ▶ IT Operations (mostly web applications)
- ▶ Development

And also some philosophical topics like the
“Ultimate Question of Life, the Universe, and Everything”...¹

¹The Hitchhiker's Guide to the Galaxy

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All was done manually

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- ▶ IT Operations

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 - ▶ Rollout 10 new web servers

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Problem: servers scale better than people

NEXT STEPS - SCRIPTS

¹Bash, Ruby, Perl, Python, Brainfuck...

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- ▶ We start to automate our tasks

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- ▶ Some Sysadmins automate their tasks using a script written in their own way in they preferred scripting language¹ (sometimes in their own scripting language)

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- ▶ Some Sysadmins automate their tasks using a script written in their own way in they preferred scripting language¹
(sometimes in their own scripting language)

Problem: obfuscation (write-only scripts)

¹Bash, Ruby, Perl, Python, Brainfuck...

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END
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Now

Now

- ▶ [API/Frameworks Zoo](#)

Now

- ▶ API/Frameworks Zoo
 - ▶ Configuration Management

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- ▶ API/Frameworks Zoo
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 - ▶ [Ansible](#) / [Chef](#) / [Puppet](#) / [Salt](#) / [Rex](#) / ...

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 - ▶ Rapid growing IT infrastructures (IT startups)

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 - ▶ [Cloud \(create 100 VMs with one click\)](#)

“We have deployed 20 more servers - we have to hire more people”

WHERE ARE WE GOING TO?

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Who the hell is DevOps!?

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- ▶ ... a department
("..this task is not in our department, try DevOps..")

DEVOPS IS A CULTURE...

¹Source: Wikipedia

DEVOPS IS A CULTURE...

“DevOps is a culture, movement or practice that emphasizes the collaboration and communication of both software developers and other IT professionals while automating the process of software delivery and infrastructure changes. It aims at establishing a culture and environment where building, testing, and releasing software, can happen rapidly, frequently, and more reliably.”¹

¹Source: Wikipedia

WHY AUTOMATE?

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- ▶ Reduce human error

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- ▶ Simplification in a growing IT infrastructure

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- ▶ Reduce Bus-Factor

BUS FACTOR

¹Source: Wikipedia

BUS FACTOR

Wikipedia partial Quote:

"..bus factor is a measurement of the concentration of information in individual team members..."¹

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INCREASING THE BUS FACTOR (LOWERING THE RISK)

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- ▶ Encourage cross-training

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- ▶ Encourage cross-training
 - ▶ **Everyone in the Team should be involved in every process**

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- ▶ try to keep it as simple as possible (KISS principle ¹)

¹Wikipedia Article

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- ▶ divide & conqueror (split & solve)
- ▶ simple tasks first
- ▶ you can't automate the whole world
 - ▶ think about cost-value ratio while automating

¹Wikipedia Article

FUTURE OUTLOOK

¹Ansible Windows Support

²VMware NSX

³OpenDaylight

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- ▶ Are Sysadmin will die out and only DevOps will survive?

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("Let's concentrate on everthing.")

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SUMMARY 1/2

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- ▶ If you are performing the same process twice (and more often) maybe it's worth to automate it (cost-value ratio)

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SUMMARY 1 / 2

- ▶ If you are performing the same process twice (and more often) maybe it's worth to automate it (cost-value ratio)
- ▶ Writing deployment documentation is boring and time consuming
 - ▶ Use configuration deployment tools to document your deployment. That way your documentation is always up to date because you are using it for deployment.

SUMMARY 2/2

- ▶ Share your knowledge with your team mates.
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Sharing knowledge doesn't make you obsolete. By sharing you learn more.
- ▶ Involve other people in your project
- ▶ Have a wide view and communicate to other teams to gain more insight

Q & A

Thanks!

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LINKS

- ▶ DevOps
 - ▶ DevOps on Wikipedia
- ▶ Network automation
 - ▶ VMware NSX
 - ▶ OpenDaylight
- ▶ Bus Factor
 - ▶ Bus Factor
- ▶ Ansible
 - ▶ Ansible quick start video
 - ▶ Ansible Windows Support
- ▶ KISS Principle
 - ▶ KISS Principle