DevOps

CSSE6400

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Question

Who has heard of *DevOps*?

Question

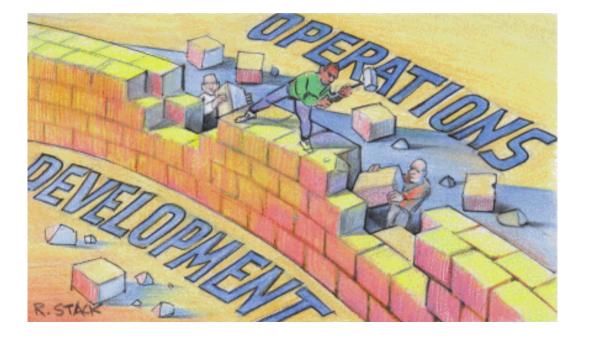
Who has used *DevOps*?

The larger story

Server Config Config Management
Application Config Config Files
Provisioning Infrastructure Code
Building Continuous Integration
Deployment Continuous Deployment
Testing Automated Tests
Database Administration Schema Migration
Specifications Behaviour Driven Development

Question

What is *DevOps*?



What is *DevOps*? [1]

 A combination of software development and IT operations skills

What is *DevOps*? [1]

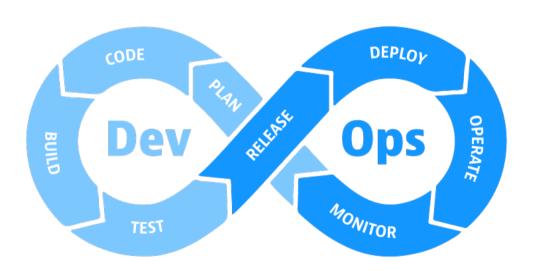
- A combination of software development and IT operations skills
- A cultural movement that enables rapid development with four defining characteristics: open communication, incentive and responsibility alignment, respect, and trust

Important

Continuous *

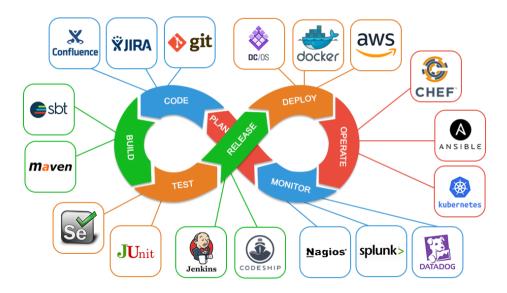
Also Important

If it hurts, do it more often



Tooling

- 1. Continuous development
- 2. Continuous integration
- 3. Continuous testing
- 4. Continuous deployment
- 5. Continuous operations
- 6. Continuous monitoring
- 7. Continuous feedback



Discussion

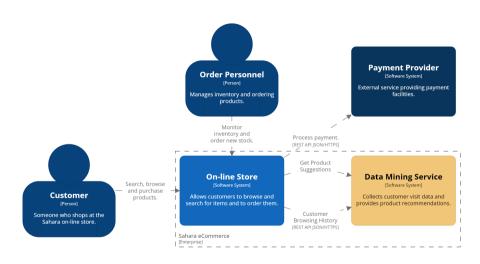
Do the seven necessary *DevOps practices* map perfectly to the *enablers* in the article by Senapathi *et al* [1]?

Technological Enablers

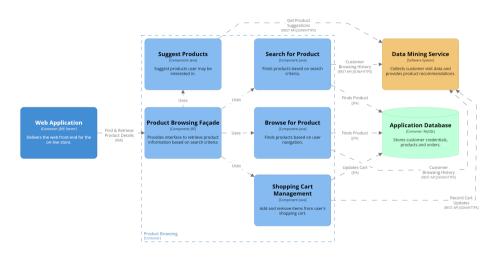
- Build automation
- Test automation
- **Deployment** automation
- Monitoring automation
- Recovery automation
- Infrastructure automation
- Configuration management for code and infrastructure
- Metrics automation

Today

Design a DevOps pipeline for Sahara



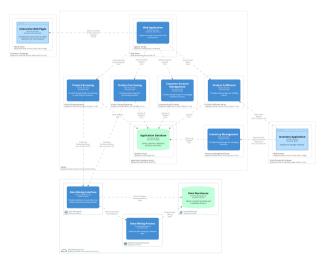
[System Context] On-line Store



[Component] On-line Store - Product Browsing

Sunday, 20 March 2022, 21:51 Australian Eastern Standard Time





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- 2. Which *specific tools* would you choose?
- 3. On which type of *computing infrastructure* would you deliver the system?
- 4. What parts of the deployment and operations processes could be *automated*?

References

[1] Mali Senapathi, Jim Buchan, and Hady Osman.

DevOps capabilities, practices, and challenges: Insights from a case study.

In Proceedings of the 22nd International Conference on evaluation and assessment in software engineering 2018, volume 137700 of EASE18, pages 57–67. ACM, 2018.