

# DevOps

## *Software Architecture*

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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*?



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- A combination of *software development* and *IT operations* skills

What is *DevOps*? [Senapathi et al., 2018]

- 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* <sup>[Senapathi et al., 2018]</sup>?

### *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

Friday, 18 March 2022, 23:38 Australian Eastern Standard Time





## *Sahara Pipeline*

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### *Sahara Pipeline*

1. What *types of tools* would be required?
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

- [Senapathi et al., 2018] Senapathi, M., Buchan, J., and Osman, H. (2018).  
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