LOG680
Introduction to the DevOps Approach

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Context

- Level
  - 3rd and 4th year

- Prerequisites
  - Having completed two work terms

- Objectives
  - Understand the philosophy and main principles of DevOps
  - Model and analyze the different aspects of a DevOps system
  - Identify concrete strategies to improve the DevOps approach
  - Define a plan for setting up and evolving a DevOps approach.

- What this course is not
  - Course on a chain of specific tools
    - Pipeline CI / CD, Dockers and Kubernetes, Puppet / Chef, Chaos Engineering, etc.
    - AWS, Micorsoft Azure, IBM Bluemix, Emphasis, Atlassian, ...
  - Programming course

**Technologies and tools will change,
but the foundations will remain!**

Main Topics Covered

- The Three Ways of DevOps
  - Flow
  - Feedback
  - Continuous learning and experimentation
- Application Lifecycle Management (ALM) and Collaborative Project Management
- Kanban
- Continuous Integration, Continuous Deployment, and Continuous Delivery (CI / CD)
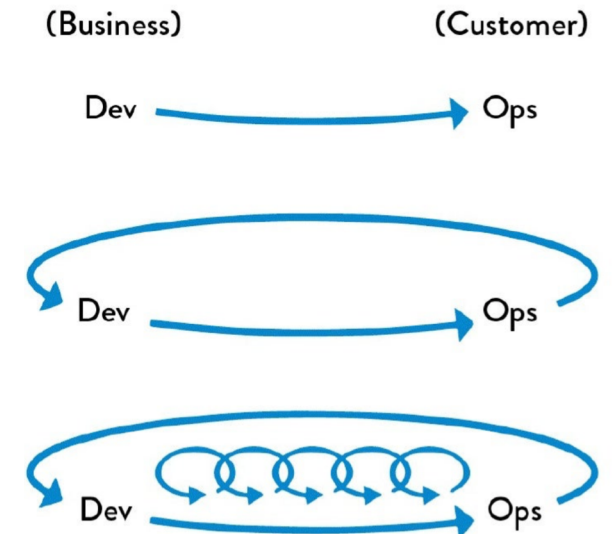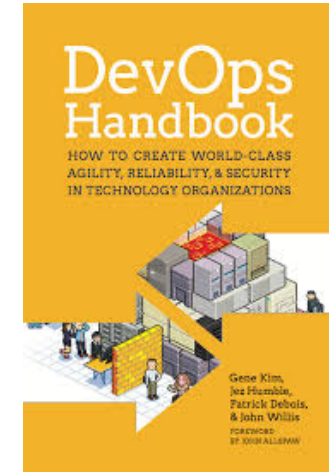- Testing in a DevOps context
- Software system operations

Figure 5: *The Three Ways (Source: Gene Kim, "The Three Ways: The Principles Underpinning DevOps," IT Revolution Press blog, accessed August 9, 2016, http://itrevolution.com/the-three-ways-principles-underpinning-devops/.)*

Format of the Course

- 35 students

- Conventional lectures
  - In-class (open) discussions based on the DevOps Hanbook
  - Students are invited to share theri experiences

- Invited industrial presentations

- Hands-on labs
  - 4 labs, 3 weeks each
  - Topics
    - Installation and configuration of an ALM tool, Tuleap
    - Project Analysis using Kanban
    - Integration of CI / CD aspects
    - Ops – Topics to be determined

- Technical environment
  - Tuleap
  - Jenkins
  - Others to be selected (by the students)

Evaluation and Feedback

- Evaluation
  - Exams – Indivudual
    - Mid-term: 25%
    - Final 25 %
  - Team assignments/labs
    - Teams of 3 people
    - 4 x 25%

- Feedback
  - So far so good
  - … but just started