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Module 12

Compliance in DevOps

In the world of software development and IT operations, compliance with regulatory standards is a crucial concern. This is especially true for industries like banking and finance. Many organizations believe that adopting DevOps practices can conflict with compliance requirements. The DevOps Handbook offers a unique perspective, specifically chapter 23. The chapter presents two case studies that show how companies in highly regulated environments have successfully used DevOps to enhance compliance. The first case “Providing Compliance in Regulated Environment” focuses on automating compliance through pipelines and infrastructure as code. The second case “Relying on Production Telemetry for ATM Systems” shows how real-time monitoring increases safety and confidence in frequent deployments. These cases provide valuable lessons about how compliance can be improved through modern DevOps practices.

Our first case study describes a large financial services company facing strict regulatory requirements. Traditionally, their compliance model was based on manual reviews, approvals, and documentation. This usually resulted in lengthy delays, inconsistent practices, and limited auditability. The company recognized that their old approach was not scalable and introduced DevOps practices to transform their compliance process. One of the biggest changes was the use of automation in their deployment pipelines. With this, they were able to enforce compliance rules automatically during builds and deployments. Furthermore, they used infrastructure as code, meaning that all system configurations were stored in version control. This allowed them to give clear, traceable records of every change made.

A key point from this case study is that automation can strengthen compliance. By reducing human error and manual processes, the company created a repeatable and auditable workflow. Instead of depending on a checklist or someone remembering to follow policy, the pipeline ensured that only approved and tested changes were deployed. Compliance then became part of the development process rather than an obstacle to it.

With access to real-time data, the deployment and operations teams could detect issues quickly and improve software faster. Telemetry also helped the bank meet compliance goals by giving them a detailed record of system behavior, errors, and incident responses. By relying on production telemetry, a virtuous cycle was created where evidence-based decision-making became the norm. The case study demonstrates how observability is not just a technical benefit; it also supports security, compliance, and customer satisfaction.

Both case studies prove that Devops and compliance are not mutually exclusive. Integrating compliance into DevOps workflows leads to better reliability, faster releases, and stronger audit trails. Automation, version control, and real-time telemetry are powerful tools for meeting the strict demands of regulated industries.

These case studies from The DevOps Handbook demonstrate how organizations in regulated industries can successfully adopt DevOps practices without sacrificing compliance. By adopting compliance into automated pipelines and using telemetry to monitor production environments, companies can deliver software faster and safer. Compliance does not have to slow down innovation; instead, it can be built into the process from the start. The key is shifting from manual, after-the-fact controls to automated, continuous ones. In doing so, companies will not only meet regulatory requirements but also improve quality, speed, and confidence in their systems.

References:

Kim, G., Humble, J., Debois, P., Willis, J., & Forsgren, N. (2021). The DevOps Handbook

(2nd ed.). IT Rev.

(2022, August 15). *The importance of compliance in DevOps*. GitLab. <https://about.gitlab.com/blog/the-importance-of-compliance-in-devops/>

(2021, November 2). *Compliance in* *a DevOps Culture*. Martin Fowler. https://martinfowler.com/articles/devops-compliance.html