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The History of DevOps

DevOps, combining “development” and “operations,” marks a cultural and technological transformation in the processes of building, deploying, and managing software. DevOps promotes close collaboration instead of keeping development and operations as separate, siloed teams, resulting in faster, more efficient, and more adaptive software delivery. Its growth has been heavily influenced by major technological movements, notably the Lean Movement, the Agile Manifesto, and the Continuous Delivery Movement.

DevOps has its foundational roots in the Lean Movement, which first emerged in manufacturing, particularly through Toyota’s production system developed in the mid-20th century. Lean principles emphasized eliminating waste, improving workflow, and maximizing customer value. These ideas were later adapted for software development and became Lean Software Development. Within software development, Lean minimizes waste by avoiding unneeded features, reducing excessive documentation, and streamlining the decision-making process. It promotes faster feedback loops, smaller batch sizes, and a culture of continuous improvement. Many of these principles carried over into DevOps, which focuses on automating workflows, increasing efficiency, and delivering reliable value to end users as quickly as possible.

Lean laid the foundation, but the Agile Manifesto, published in 2001, propelled software development forward by emphasizing speed, flexibility, and teamwork. The Agile Manifesto was created by a team of developers unhappy with the conventional, inflexible software development methods. It emphasized valuing people and communication over strict processes and tools, delivering functional software instead of extensive documentation, collaborating with customers rather than focusing on contract details and adapting to change instead of strictly following a predetermined plan. Agile frameworks like Scrum and Kanban became widely adopted, enabling faster and more flexible software delivery. However, Agile often focuses primarily on the development side of the software lifecycle, leaving a disconnect between developers and operations teams. DevOps arose to bridge this gap by expanding Agile principles beyond just development to encompass deployment, infrastructure, and operations, thereby establishing a more comprehensive, end-to-end approach to delivering software.

The Continuous Delivery Movement was an essential influence on DevOps. In 2010, Jez Humble and David Farley released the book Continuous Delivery: Reliable Software Releases through Build, Test, and Deployment Automation. This book explained effective strategies for delivering software quickly and reliably. Continuous Delivery, often called CD, aims to automate the complete software release process, including building, testing, and deployment, to guarantee that software is always ready to be deployed. CD prioritizes reliability, speed, and consistency and introduced key practices like continuous integration, automated testing, and deployment pipelines. These technical practices became core components of DevOps, which built upon CD by promoting the cultural changes necessary to support such automation, such as team ownership, collaboration, and shared responsibility for delivering quality software.

In summary, DevOps did not develop on its own. It was influenced by the Lean Movement’s dedication to efficiency, the Agile Manifesto’s focus on collaboration and flexibility, and the Continuous Delivery Movement’s commitment to automation and dependability. These influences helped shape a powerful and transformative software development and operations approach. Today, DevOps keeps progressing, enabling organizations to deliver better software more quickly and efficiently.

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