

DevOps has a history that came from the need for efficiency and collaboration within software development. It stands for development operations, which is now easy to see how fitting the name is. There are operations in place to ensure development is successful, and it's meant to happen in a cohesive way, assisting in quality, speed, and adoption. There are three main principles that support DevOps: the Lean Movement, the Agile Manifesto, and the Continuous Delivery Movement.

To briefly explain these, the Lean Movement focuses on cutting out extra tasks and distractions from the main development goal, allowing the team to focus on specific tasks until they're completed before moving on. This avoids overloading the team with too many things at once. The Agile Manifesto introduced the idea of bringing agility into the development cycle, organizing teams to collaborate in a flexible way and continuously deliver and improve software, instead of making it a long and drawn-out process. The Continuous Delivery Movement is all about adding automation to the development process, making things faster, more consistent, and reliable when it's time to release new software or updates. Altogether, these principles come together to make DevOps work, uniting everything so development can happen smoothly and efficiently.

The idea of the Lean Movement came from manufacturing, focusing on efficiency and cutting down on wasted time. Each task should add value to the end product without adding extra steps or distractions. One way this is shown is by not giving the

team too many tasks at one time, which helps prevent overwhelm. Adding these practices improves the quality of features and boosts workflow productivity. This can help the team with addressing issues more quickly. This will also lean into faster delivery times with quality.

The Agile Manifesto, created in 2001, was developed to address the ongoing problems with the traditional software development process, which often felt slow and stretched out. Planning and documenting weren't necessarily bad ideas, but they took up most of the focus, causing delays in the development cycle and pushing back delivery to customers. The main values of the manifesto focus on the individuals working, their interactions, and the tools they use, rather than the non-flexible, traditional way. In Agile, working software is delivered to customers sooner because there's less emphasis on contracts and documentation, and more on collaboration. Overall, this creates a more customer-focused, flexible way of delivering products. Software is released more quickly, and teams can get feedback and make improvements faster. This results in better quality and faster delivery, as well as quicker responses to customers. Projects are broken down into smaller parts, rather than feeling like one big project.

The Continuous Delivery, also referred to as CD, allows for automation of repetitive tasks, which helps to speed up the process with code. This means code can be constantly tested, and there's no need for manual intervention, which helps improve speed and reduces errors. With Continuous Delivery, software updates can be rolled out

faster and more often. This is evident with phones nowadays because updates are much quicker, and issues are resolved faster than in the past. CD plays a role in this because teams can work on smaller, more manageable projects, allowing them to get back to customers more quickly. Collaborating with teams and adapting to changes overall lead to a better experience for the customer, as their software is more up-to-date because this has been introduced into the process.

In conclusion, DevOps is like a triangle with the Lean Movement, Agile Manifesto, and Continuous Delivery at each point. None of them is better than the other; they all work together to build quality, collaboration, and efficiency. This makes software development smoother overall. The main focus is on adding value and making sure teams don't get overwhelmed. It's about staying flexible, getting quick feedback, and automating repetitive tasks, which leads to more reliable software updates. Altogether, this approach improves the experience for the customer by streamlining the development process.

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