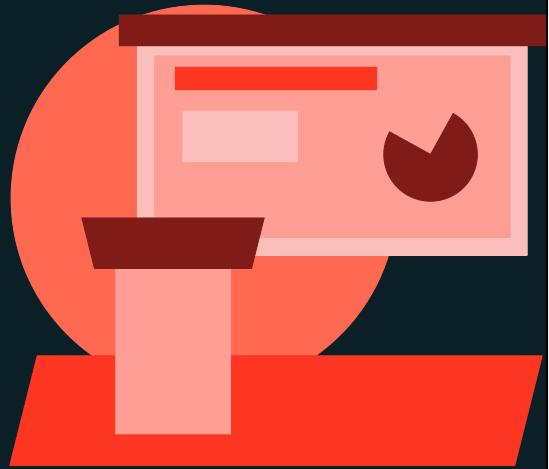




DevOps and CI/CD Review

LECTURE

DevOps Review



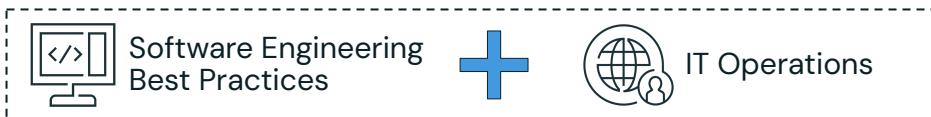
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In this lecture, we explore DevOps principles, their application to data engineering and machine learning, and introduce DataOps as DevOps for data engineering.

DevOps Review

What is DevOps?

DevOps



Fosters **collaboration** between development and operations teams to **automate workflows** and **streamline processes**.



Key benefits include

- faster deployments
- improved collaboration
- enhanced reliability
- better scalability



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Let's quickly review what is DevOps.

DevOps is a culture and set of practices that combines Software Engineering Best Practices with IT Operations to deliver software more rapidly, efficiently, and with higher quality.

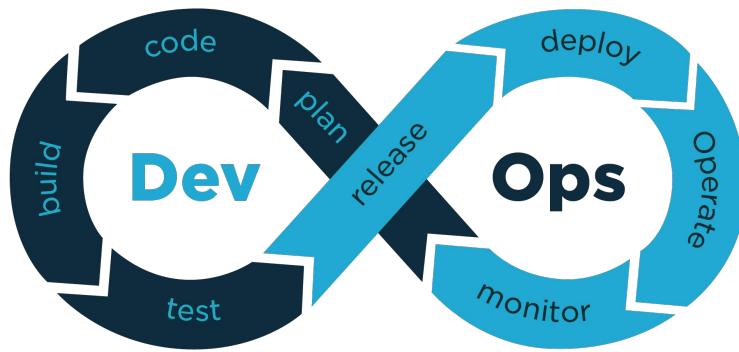
It's all about fostering collaboration between development and operations teams to automate your workflows, streamline the processes, and ensure continuous delivery of applications.

Key benefits of DevOps include:

- Faster deployment cycles
- Improved collaboration between teams
- Enhanced system reliability
- Better scalability and efficiency

In short, DevOps is a way to build and deliver software quickly and reliably by bridging the gap between development and operations.

DevOps is a process for **continuously** integrating, testing and deploying your code.



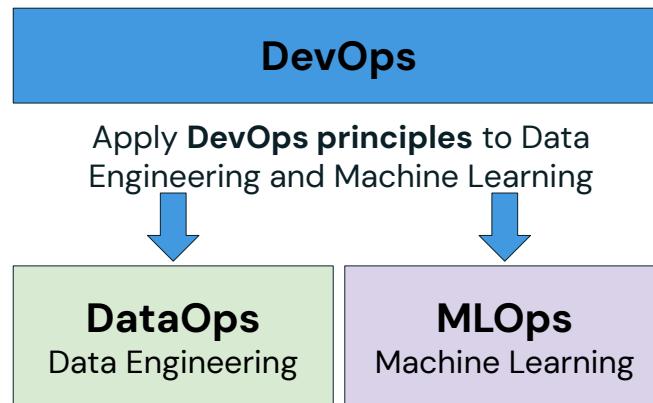
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The DevOps lifecycle is all about seamless collaboration between development and operations teams to deliver high-quality software.

It starts with planning, coding, building and testing. Then moving to releasing, deploying, operating and monitoring.

Continuously iterating throughout the DevOps lifecycle as the project needs fixes, updates or features.

DevOps For Data Engineering and Machine Learning



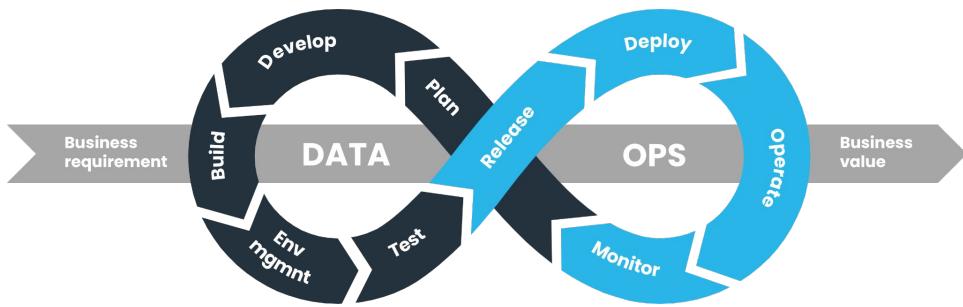
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We can apply DevOps principles to Data Engineering and Machine Learning. Remember, DevOps is all about automating processes, improving collaboration, testing, and speeding up delivery.

DataOps is a subset of DevOps and applies DevOps to data engineering. It automates the management of data pipelines, ensuring smooth, reliable data flows from collection to processing. This means fewer bottlenecks and faster insights.

MLOps is about applying DevOps to machine learning. It streamlines the process of deploying and managing ML models, ensuring that models move from development to production quickly and are monitored for performance.

DataOps = DevOps for Data Engineering



You want to think about how **DevOps** principles and culture can be applied to your **Data Engineering pipelines**.



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DataOps is essentially DevOps for data engineering—it applies those same principles of automation, collaboration, and continuous improvement to data workflows. Just as DevOps streamlines software delivery, DataOps focuses on optimizing the flow, quality, and management of data pipelines.

In the end, you want to think about how DevOps principles and culture can be applied to your Data Engineering pipelines.



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Thank you for completing this lesson and continuing your journey to develop your skills with us.