What is DevOps?

DevOps

DEVelopment & **OP**erations

Combines Agile software development with IT operations

Cross-training and collaboration between traditionally separate development and operations teams

Team is cross-functional, overlapping responsibilities, all members understand all parts of the SDLC

Improves communication and accelerates development and delivery

CI/CD

Continuous integration, continuous delivery (or deployment)

Fast, frequent integration of new code into software in development

Fast, frequent delivery/deployment of new software iterations

CI/CD pipeline: series of steps for integration and delivery/deployment, also includes software build (compilation) process, testing, and more

Highly automated

DevOps principles

Frequent releases

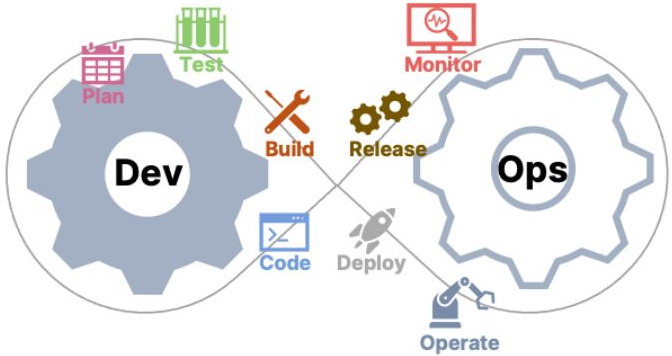
Team awareness and shared goals

End-to-end responsibilities

Continuous improvement

Automation

DevOps lifecycle

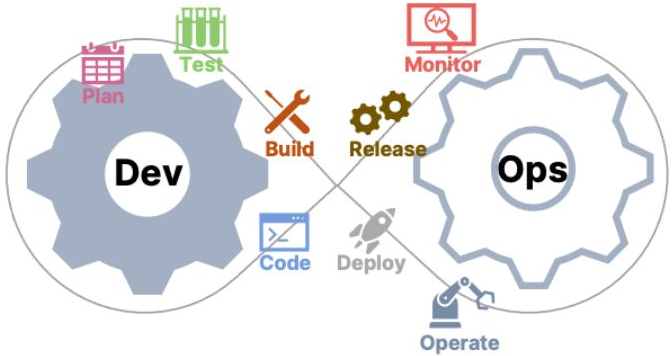


DevOps: Plan, Code, Build, Test, Release, Deploy, Operate, Monitor

Dev | Ops

Continuous planning:
Have a plan in place that can be quickly and frequently reprioritized and adjusted

DevOps lifecycle



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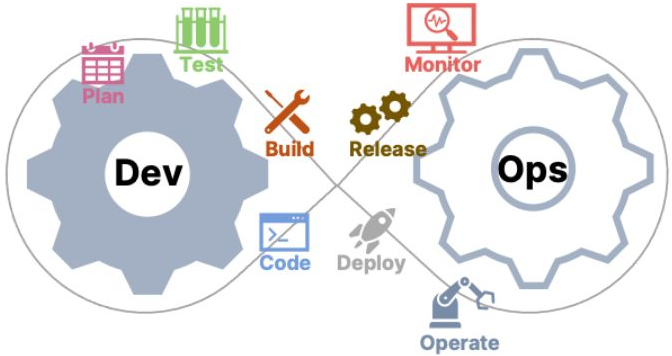
Dev Ops

Continuous development:
Small development cycles, iterative development

DevOps lifecycle



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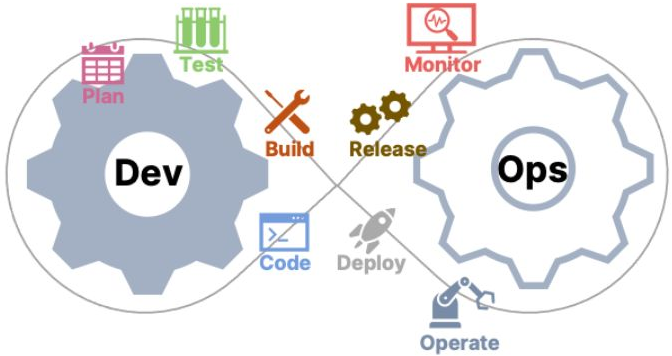
Continuous integration:
Code is integrated into main codebase and built (compiled)

DevOps lifecycle



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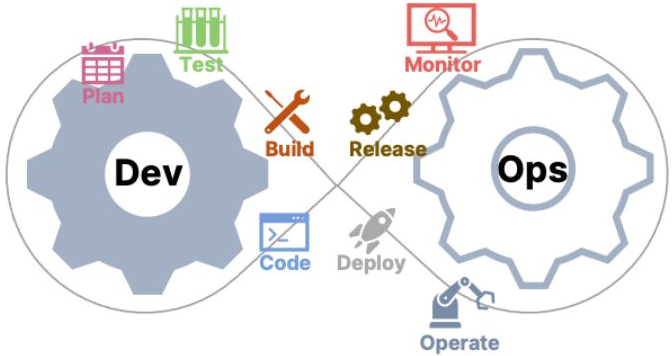
Dev Ops

Continuous testing:
Tests the completed build from the previous stage

DevOps lifecycle



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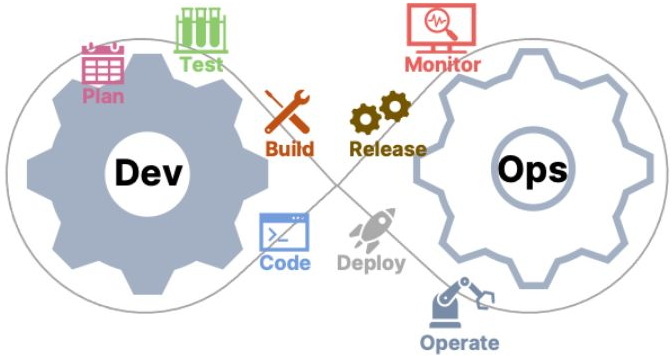
Dev Ops

Continuous releasing:
Product is made ready for release to deployment

DevOps lifecycle



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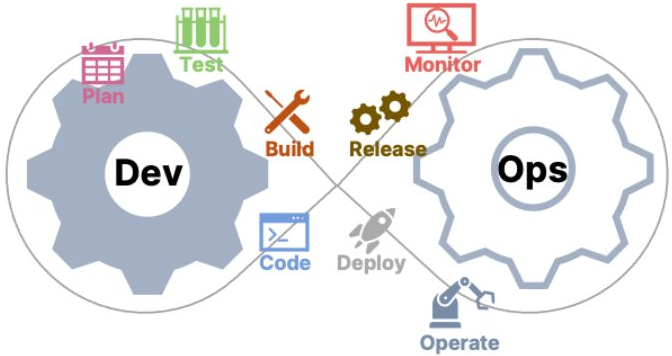
Dev Ops

Continuous deployment:
Software deployed to production environment, available to end users

DevOps lifecycle

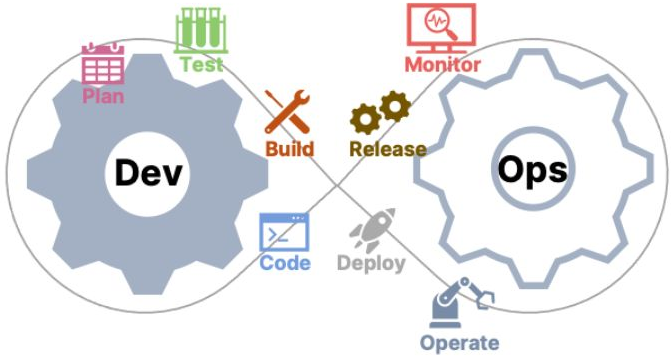


DevOps: Plan, Code, Build, Test, Release, Deploy, Operate, Monitor

Dev Ops

Continuous operating:
Ensure software runs smoothly for end users,
implement continuous feedback for use in next iteration

DevOps lifecycle



DevOps: Plan, Code, Build, Test, Release, Deploy, Operate, Monitor

Dev Ops

Continuous monitoring:
Monitor the deployed software for issues

Why do we focus on DevOps?

DevOps has become increasingly popular in modern software engineering

Usually not enough today to only know how to code

Important to be familiar with tools and practices beyond coding