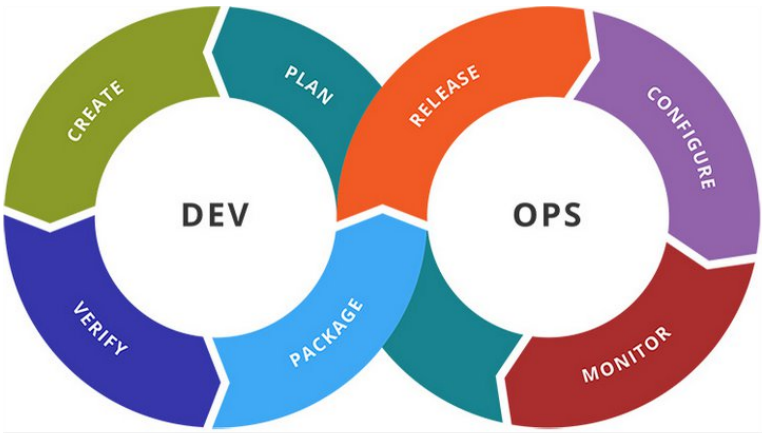
WHAT IS DEVOPS?



DevOps is a modern way of working in software development in which the development team (who writes the code and builds the software) and the operations team (which sets up, runs, and manages the software) work together as a single team.

Before DevOps, the development and operations teams worked separately. This caused:

- Delays in launching software
- Miscommunication between teams
- Slow fixing of problems

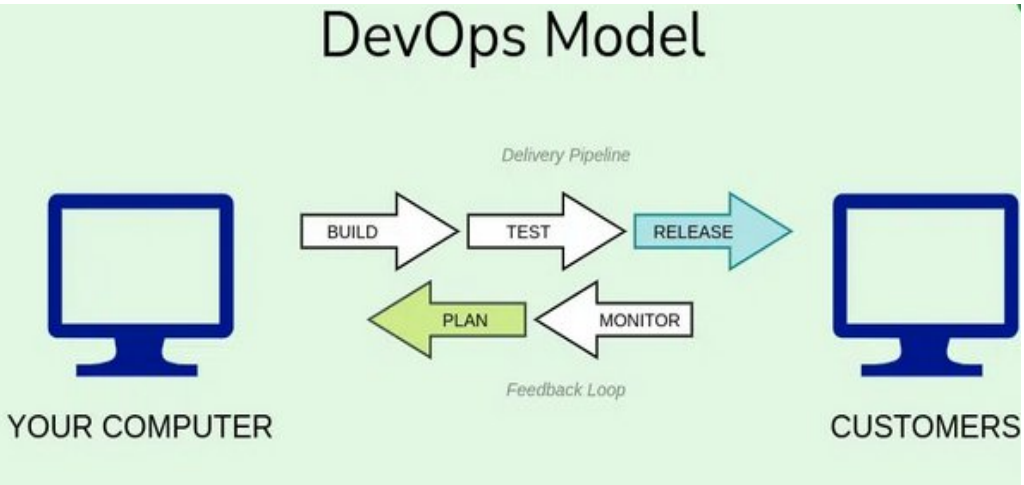
HOW DEVOPS WORKS?

Here is a basic understanding of DevOps working flow:

- Code is developed collaboratively by Dev and Ops teams.
- Changes are integrated continuously using automated builds and tests (CI).
- Applications are deployed automatically through Continuous Delivery (CD).
- Infrastructure is managed as code for consistency and repeatability (IaC).
- Systems are monitored continuously to gather feedback and improve future releases.

DEVOPS MODEL DEFINED

DevOps is a software development approach that emphasizes collaboration and communication between development (Dev) and operations (Ops) teams. It aims to shorten the software development lifecycle and improve the quality and reliability of software releases.



ADVANTAGES OF DEVOPS

DevOps was created to resolve these issues by making both Development and Operations teams work together in entire software development lifecycle. The following are some reasons why DevOps was needed:

1. Faster Delivery of Software

In traditional development, it takes a long time to move from writing code to delivering it to users. There are many steps, and they are often done manually. DevOps makes this faster by automating tasks like testing and deployment. This means new features, updates, and bug fixes can reach users quickly sometimes even several times a day.

2. Better Teamwork and Communication

In the past, developers (who build the software) and operations teams (who manage it) worked separately. This led to confusion and delays. DevOps encourages teamwork both teams

work together, share knowledge, and take responsibility for the software from start to finish. This reduces mistakes and improves problem-solving.

3. More Reliable Software with Fewer Errors

When software is tested manually and updated rarely, it's easier to miss problems. DevOps uses automated testing and monitoring, which helps catch bugs early before they reach the users. This makes the software more stable, secure, and reliable.

4. Automation Saves Time and Reduces Errors

Manual work takes time and can lead to human mistakes. For example, a small typo during a software update might crash a system. DevOps uses tools that automate tasks like:

- Testing code
- Releasing updates
- Monitoring the system

This saves time, improves accuracy, and makes the whole process smoother.

5. Helps Businesses Be More Flexible and Competitive

In today's fast-moving world, businesses need to release features quickly and respond to customer feedback. DevOps supports this by allowing faster changes and quick adjustments, helping companies stay ahead of competitors and adapt to changes easily.

6. Better Experience for Customers

When updates are fast, bugs are rare, and systems are stable, customers are happier. DevOps helps deliver software that works well, gets updated often, and solves user problems quickly, leading to a better overall experience.