

**DevOps** is a combination of **Development** and **Operations** practices that aim to bring together software development (Dev) and IT operations (Ops) teams. The goal is to improve collaboration, streamline processes, and deliver high-quality software faster and more efficiently. DevOps is both a **culture** and a set of **practices** that focus on automation, continuous delivery, and monitoring throughout the software development lifecycle.

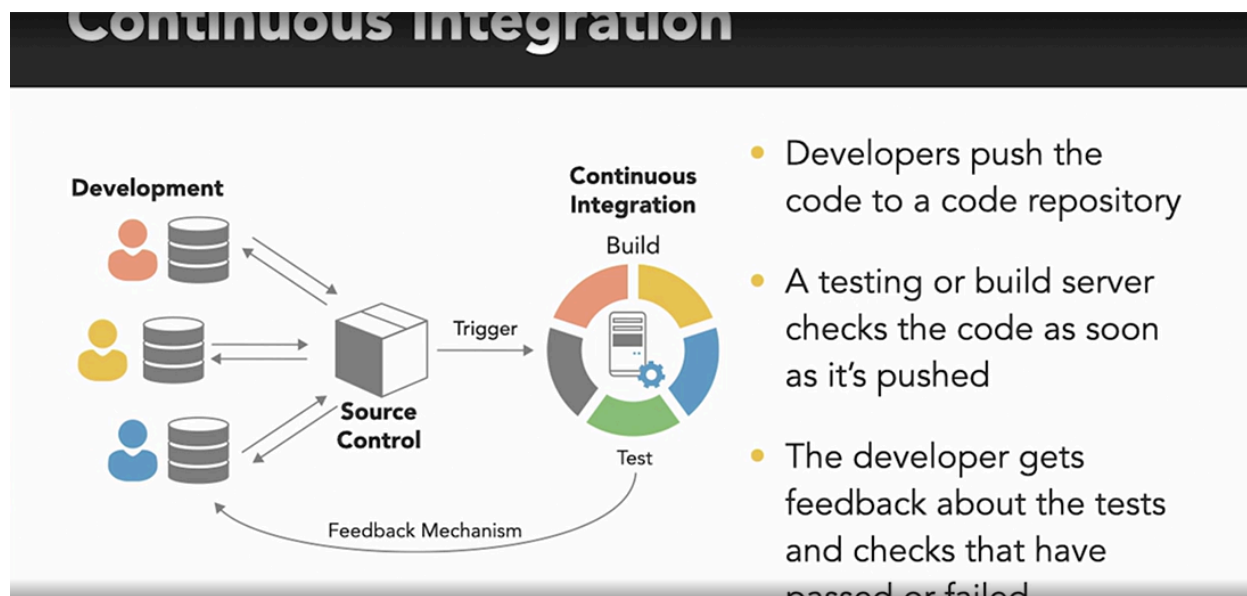
## Key concepts of DevOps:

- Collaboration and Communication
- Automation
- Continuous Integration (CI) and Continuous Delivery (CD)
- Infrastructure as Code (IaC)
- Monitoring and Feedback

DevOps is about breaking down the barriers between development and operations teams, automating manual processes, and creating a culture of collaboration and continuous improvement. By doing so, DevOps enables faster delivery of reliable software with better quality and more efficient use of resources.

## CI/CD

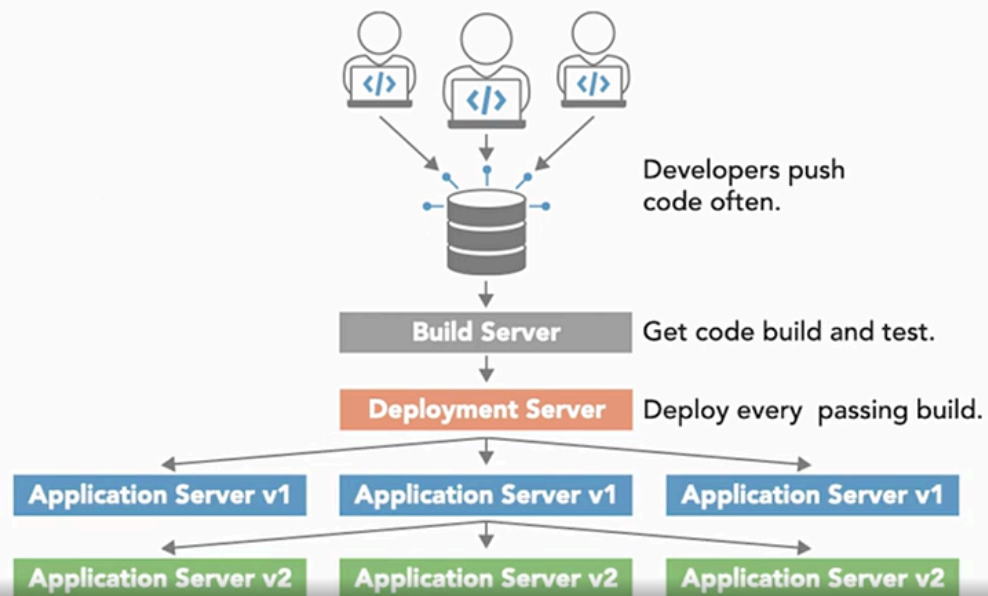
Continuous Integration and Continuous Delivery/Deployment. It is a method used to deliver software applications.



# Continuous Delivery

- Ensures that the software can be released reliably whenever needed
- Ensures deployments happen often and are quick
- Shifts away from "one release every three months" to "three releases per day"
- Usually means automated deployment

# Continuous Delivery



## Continuous Delivery

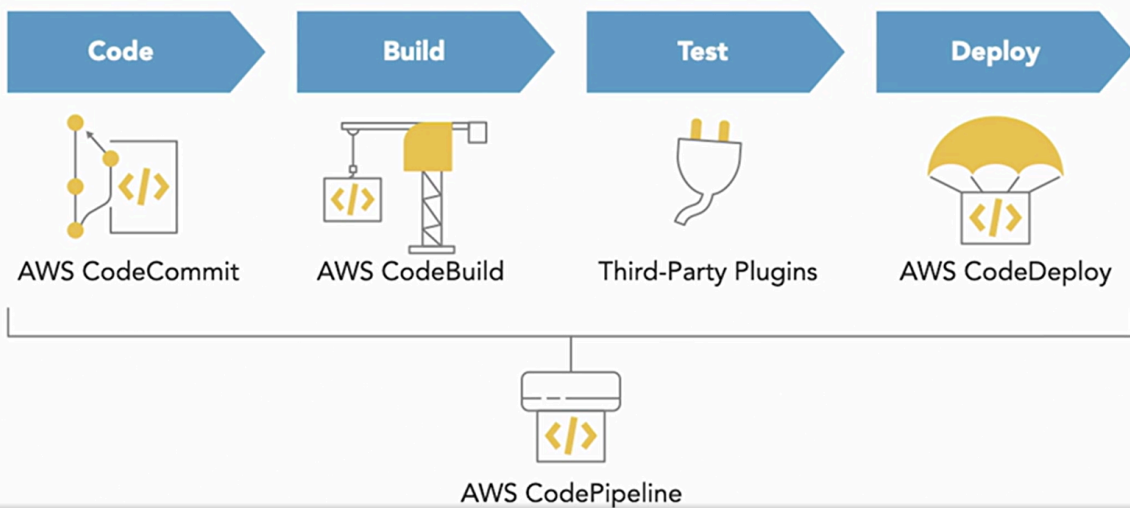
- Ability to deploy often using automation
- May involve a manual step to approve a deployment
- Deployment itself is still automated and repeated

## Continuous Deployment

- Full automation; every code change is deployed all the way to production
- No manual intervention of approvals

# AWS CI/CD Stack

## CI/CD with AWS



- **AWS DevOps** offers a set of integrated services that are focused on DevOps workflows:
  - **AWS CodeCommit** for Git repositories
  - **AWS CodeBuild** for build automation
  - **AWS CodeDeploy** for deployment automation
  - **AWS CodePipeline** for CI/CD
  - **AWS CloudFormation** for infrastructure as code (IaC)