



Fundamentals and Benefits of CI/CD to Achieve, Build, and Deploy Automation

Definition of DevOps

- **DevOps** is a **culture** and **practice** that emphasizes the **Collaboration** and **Communication** of both developers and other IT professionals like Quality Analysts , Ops teams for automating the process of software delivery and infrastructure changes .

7 C's of DevOps

- Communication
- Collaboration
- Continuous Development
- Continuous Integration
- Continuous Testing
- Continuous Deployment
- Continuous Monitoring

What is CICD

- Continuous Integration (CI) is a development practice that requires developers to integrate code into a shared repository several times a day. Each check-in is then verified by an automated build, allowing teams to detect problems early. By integrating regularly, you can detect errors quickly, and locate them more easily.
- Continuous Delivery is the ability to get changes of all types—including new features, configuration changes, bug fixes and experiments—into production, or into the hands of users, safely and quickly in a sustainable way. We achieve all this by ensuring our code is always in a deployable state, even in the face of teams of thousands of developers making changes on a daily basis.

Benefits of CICD

- Automated testing enables continuous delivery, which ensures software quality and security and increases the profitability of code in production.
- CI/CD pipelines enable a much shorter time to market for new product features, creating happier customers and lowering strain on development.
- The great increase in overall speed of delivery enabled by CI/CD pipelines improves an organization's competitive edge.
- Automation frees team members to focus on what they do best, yielding the best end products.
- Built in, from the beginning rollback capability – this will please change management in terms of change backout positions