

Importance and benefits of CI/CD



What is CI/CD

Continuous Integration is the practice of automating the integration of code changes from multiple contributors into a single software project.

Continuous Deployment is a software engineering approach in which the value is delivered frequently through automated deployments. Everything related to deploying the artifacts fits here. It's the process of moving artifact from the shelf to the spotlight.

Continuous
Integration + Continuous
Deployment = Continuous
Delivery

Continuous Delivery is an overarching paradigm or mindset that informs and enhances the practices of Continuous Integration and Continuous Delivery.

Principles of Continuous Delivery



1. Repeatable Reliable Process
2. Automate Everything
3. Version Control Everything
4. Bring the Pain Forward
5. Build-in Quality
6. "Done" Means Released
7. Everyone is Responsible
8. Continuous Improvement

Benefits of CI/CD



1. Reduces cost
 - a. By catching compile errors after merge. Less developer time on issues from new developer code.
 - b. By automating infrastructure cleanup. Less infrastructure costs from unused resources
2. Avoid cost
 - a. Catch Unit Test Failures: Less bugs in production and less time in testing.
 - b. Detect Security Vulnerabilities: Prevent embarrassing or costly security holes.
 - c. Automate Infrastructure Creation: Less human error, Faster deployments.
3. Increase revenue
 - a. Faster and More Frequent Production Deployments: New value-generating features released more quickly
 - b. Deploy to Production Without Manual Checks: Less time to market
4. Protect revenue
 - a. Automated Smoke Tests: Reduced downtime from a deploy-related crash or major bug
 - b. Automated Rollback Triggered by Job Failure: Quick undo to return production to working state



Thank you