

Fundamentals of CI/CD

- CI/CD is a means of delivering apps to clients on a regular basis by incorporating automation into the phases of app development. Continuous integration, continuous delivery, and continuous deployment are the three key principles associated with CI/CD.
- CI/CD is a solution to the issues that new code integration might bring for development and operations teams.

Fundamentals of CI/CD

- The "CI" in CI/CD always refers to continuous integration, which is a developer automation method. Successful CI implies that new code changes to an app are created, tested, and merged into a common repository on a regular basis.
- The "CD" in CI/CD stands for continuous delivery and/or continuous deployment, two ideas that are frequently used interchangeably. Both are concerned with automating subsequent stages of the pipeline, but they are frequently used individually to demonstrate how much automation is taking place.

Some CD-related stages might be:

- Promoting to Production
- Creating Infrastructure
- Copying Files
- Provisioning Servers
- Rollback
- Smoke Testing

Benefit of CI/CD

- Faster time to market
- Shorter review time
- Reduced risk
- Better code quality
- Smoother path to production
- Faster bug fixes
- Measurable progress
- Efficient infrastructure

Benefit of CI/CD

- Catch compile errors after merge - Reduce Cost
- Catch unit test after failures - Avoid Cost
- Detect security vulnerabilities - Avoid Cost
- Automate infrastructure creation - Avoid Cost
- Automate infrastructure cleanup - Reduce Cost
- Faster and more frequent production deployment - Increase
- Deploy to production without manual check - Increase Revenue
- Automated smoke tests - Protect Revenue
- Automated rollback triggered by job failure - Protect Revenue