

# **Fundamentals and Benefits of CI/CD to Achieve, Build, and Deploy Automation for Cloud-Based Software Products**

**CI/CD is the combined practices of continuous integration (CI) with continuous delivery or continuous deployment (CD). The purpose of CI/CD is to allow development teams to deliver code changes more frequently and reliably.**

# What are continuous integration, continuous delivery, and continuous deployment?

The CI in CI/CD stands for continuous integration. Continuous integration means that developers frequently merge their code changes to a shared repository. It's an automated process that allows multiple developers to contribute software components to the same project without integration conflicts. CI involves automated testing whenever a software change is integrated into the repository.

CD can stand for either continuous delivery or continuous deployment. Both involve taking the code continuously integrated and getting it able to deploy to an environment either QA or production. Continuous deployment takes the process one step further and performs the actual deployment to an environment.

# What are the Business Benefits of CI/CD?

- Bring Products to Market Faster
- CI/CD plays a crucial role in shortening time to value.
- CI/CD Improves App Quality
- Reduce Costs and Boost Profits
- Eliminate frequency of bugs with new releases
- Detect security vulnerability
- Catch Unit/Integration test failures