# Selling CI/CD

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# Whats is CI/CD?

CI/CD stands for Continuous Integration and Continuous Deployment (or Delivery). It is a software development practice that involves automating the build, test, and deployment processes of software products. This practice is widely adopted in cloud-based software development, as it helps teams to achieve faster and more frequent releases, while ensuring software quality and reliability.

# Fundamentals of CI/CD

## Continuous Integration:

Continuous Integration: Continuous Integration involves developers regularly merging their code changes into a shared repository, where it is automatically built and tested. This helps to catch errors and bugs early in the development process, and ensures that code changes are integrated smoothly with the rest of the codebase. Some common CI related phases include: compile, unit test, static analysis, dependency vulnerability testing and store artifact.

## Continuous Deployment

Continuous Deployment is the practice of automatically deploying changes to production as soon as they pass all the tests in the Continuous Integration (CI) phase of the CI/CD pipeline. Some common CD related phases include: Creating infrastructure, provisioning servers, copying files,promoting to production,smoke testing(verify) and rollbacks.

# Objectives of CI/CD

The objective of CI/CD (Continuous Integration/Continuous Deployment) is to automate the software development, testing, and deployment process, in order to deliver high-quality software more quickly and efficiently.

CI/CD helps to catch errors and bugs early in the development process, and allows developers to integrate their code changes frequently into a shared repository, where it is automatically tested and reviewed. This ensures that code changes are tested thoroughly and integrated smoothly with the rest of the codebase.

CD is the second part of the process, and it involves automating the deployment of the code changes to production as soon as they pass all the tests in the CI phase. This helps to ensure that the software is always up-to-date, and that the changes are deployed to users as quickly and seamlessly as possible.

Overall, the objective of CI/CD is to streamline the software development process, reduce development costs, and improve the quality of the software by catching errors and bugs early in the development cycle, and deploying changes more quickly and reliably.

# Benefits of CI/CD pipeline

**Cost savings:** CI/CD can help reduce development costs, as it enables organizations to more quickly identify and fix issues, reducing the time and resources needed to build software.

Competitive advantage: By delivering high-quality software faster and more efficiently than competitors, CI/CD can provide a competitive advantage in the marketplace.

Faster time-to-market: With CI/CD, software changes are developed, tested, and deployed more quickly, allowing organizations to release new features and updates faster.

Increased productivity: By automating many of the development and deployment processes, CI/CD frees up developers to focus on more high-level tasks, which can increase their productivity.

# Benefit of CI/CD

Improved quality: CI/CD includes automated testing and code reviews, which help catch errors and bugs early, leading to higher quality software.

Greater collaboration: CI/CD encourages collaboration and communication between developers, testers, and other stakeholders, leading to better teamwork and more successful software development.

Increased agility: By providing an iterative development process, CI/CD allows organizations to quickly respond to changing customer needs and market conditions.