



# CI/CD

- Best way to Deliver your Application to Market

**FUNDAMENTALS AND BENEFITS OF CI/CD**

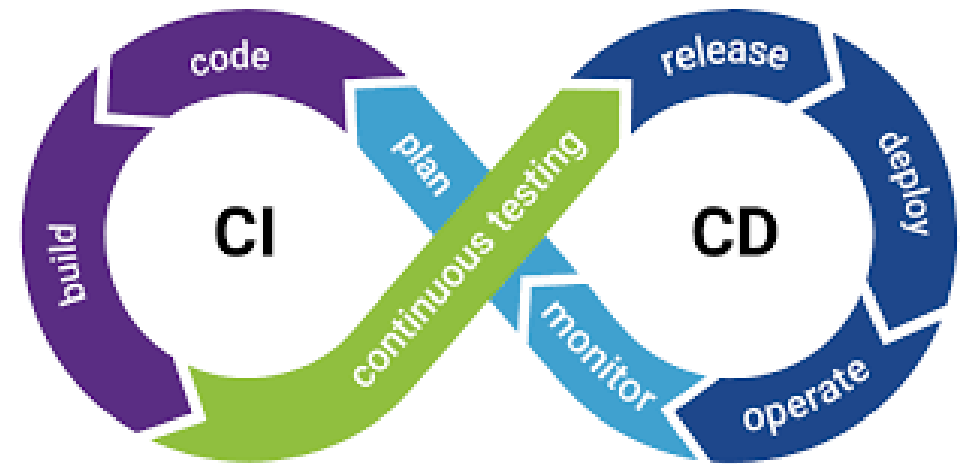
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# CI/CD brief

- ▶ Continuous integration (CI) and continuous delivery (CD) pipelines are set of development practices aimed at automating the building, testing, and deployment of applications.

- ▶ **Principles of Continuous Delivery:**

- ❖ Repeatable Reliable Process
- ❖ Automate Everything
- ❖ Version Control Everything
- ❖ Bring the Pain Forward
- ❖ Build-in Quality
- ❖ "Done" Means Released
- ❖ Everyone is Responsible
- ❖ Continuous Improvement

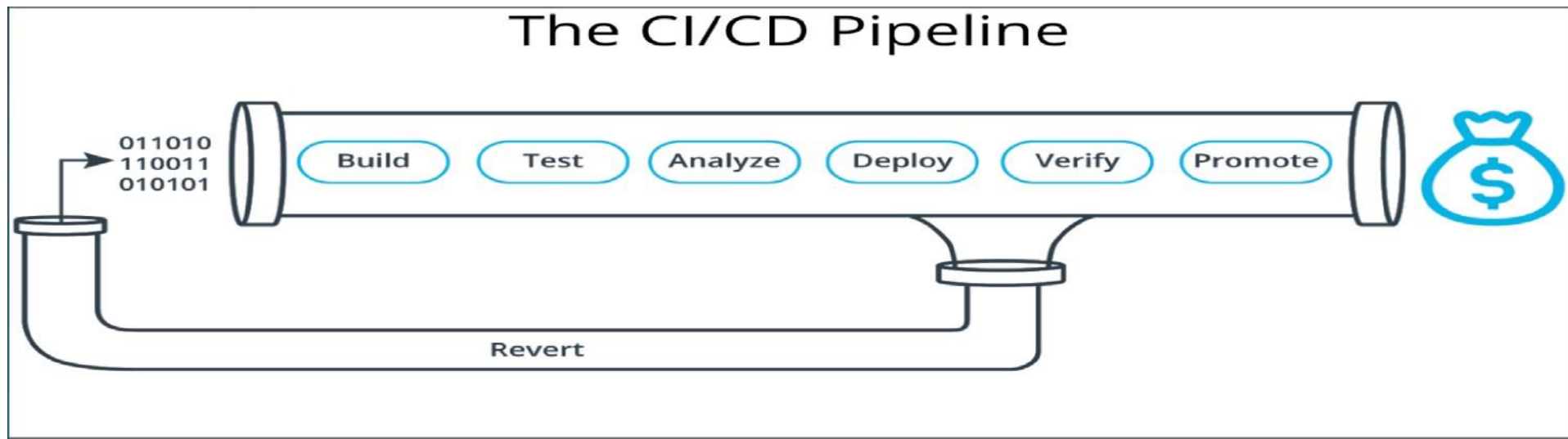


# CI vs CD

- ▶ **Continuous integration:** *the practice of merging all developers' working copies to a shared mainline several times a day. It's the process of "Making". Everything related to the code fits here.*
- ▶ **Phases:**
  - ❖ Compile
  - ❖ Unit Test
  - ❖ Static Analysis
  - ❖ Dependency Vulnerability Testing
  - ❖ Store Artifact
- ▶ **Continuous Deployment:** *A software engineering approach in which the value is delivered frequently through automated deployments. It's the process of "Moving". Everything related to deploying the artifact fits here.*
- ▶ **Phases:**
  - ❖ Creating Infrastructure
  - ❖ Provisioning Servers
  - ❖ Copying Files
  - ❖ Promoting to Production
  - ❖ Smoke Testing (aka Verify)
  - ❖ Rollbacks
- ▶ **Continuous Delivery:** *it's the practice in which teams produce and release value in short cycles.*

# Business Values of CI/CD

- ▶ **Speed:** through automating every release part we gain speedy deployments which helps in less time to market.
- ▶ **Excellent Productivity:** through repeated automated pipeline we can easily detect every issue so now teams focus on developing more features, not on the pain of the manual repeated work.
- ▶ **Less Cost:** through automated pipelines that reduce manual work, and lead to savings since personnel is way too expensive than tools.



# Benefits of the CI/CD

## ► Increase Revenue:

- ❖ New features released quickly
- ❖ Less time to market
- ❖ Faster adaption to market

## ► Protect Revenue:

- ❖ Reduced outage due to a deployment bug or issue
- ❖ Fast rollback to return production to recent working state

## ► Control and Reduce Cost:

- ❖ Prevent costly security vulnerabilities
- ❖ Less issues and less time in testing and releasing
- ❖ Less human mistakes and faster deployments
- ❖ Less developer time on issues from new developer code