

# Fundamentals and Benefits of CI/CD

# What is CI/CD ?

According to Wikipedia, **CI/CD** or **CICD** are the combined practices of **continuous integration** (CI) and (more often) **continuous delivery** or (less often) **continuous deployment** (CD)

**Continuous Integration:** The practice of merging all developers' working copies to a shared mainline several times a day.

**Continuous Delivery:** An engineering practice in which teams produce and release value in short cycles.

**Continuous Deployment:** A software engineering approach in which the value is delivered frequently through automated deployments.

# Benefits of CI/CD

When we practice CI/CD we have three main Benefits: Avoid Cost, Reduce Cost And Increase Revenue.

## **Avoid Cost**

With CI/CD,

- We have Less bugs in production and less time in testing because we automatically catch unit test failures
- We prevent embarrassing or costly security holes because we detect security vulnerabilities.

All this allows us to avoid certain costs

## **Reduce Cost**

With CI/CD,

- We have less developer time on issues from new developer code because we automatically catch compile errors after merge
- We have Less infrastructure costs from unused resources because we Automate Infrastructure Clean up.

All this allows us to reduce our costs

Increase Revenue

With CI/CD,

- We have less time to market because we deploy to production without manual checks
- We have New value-generating features released more quickly because we have Faster and More Frequent Production Deployments.

All this allow us to increase our revenues