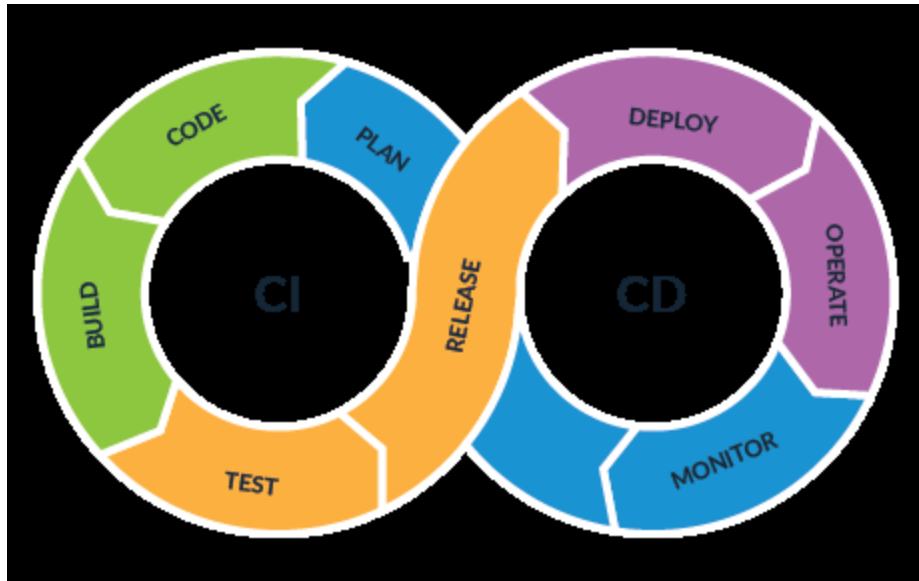


# **Fundamentals and Benefits of CI/CD**

**by**

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# What is devops?



A compound of development (Dev) and operations (Ops), DevOps is the union of people, process, and technology to continually provide value to customers.

DevOps enables formerly solid roles—development, IT operations, quality engineering, and security—to coordinate and collaborate to produce better, more reliable products.

# What is CI/CD?

Continuous delivery (CD) is the automated delivery of completed code to environments like testing and development. CD provides an automated and consistent way for code to be delivered to these environments.

Continuous deployment is the next step of continuous delivery. Every change that passes the automated tests is automatically placed in production, resulting in many production deployments.

Continuous  
Integration and  
Continuous  
Deployment

Building a  
Continuous  
Integration  
Pipeline

Enabling  
Continuous Delivery  
with Deployment  
Pipelines

Monitoring  
Environments



Coding



Code Review



Merge/  
Integrate



Compile/Lint



Run Unit  
Tests



Run  
Integration  
Tests



Verify  
Dependency  
Security



Deploy to  
Test  
Environment



Team Test



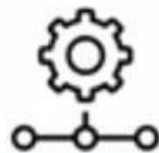
Deploy to  
Client Test  
Environment



Client Test



Create  
Infrastructure



Configure  
Infrastructure



Deploy to  
Production



Smoke Test  
in Production



Rollbacks

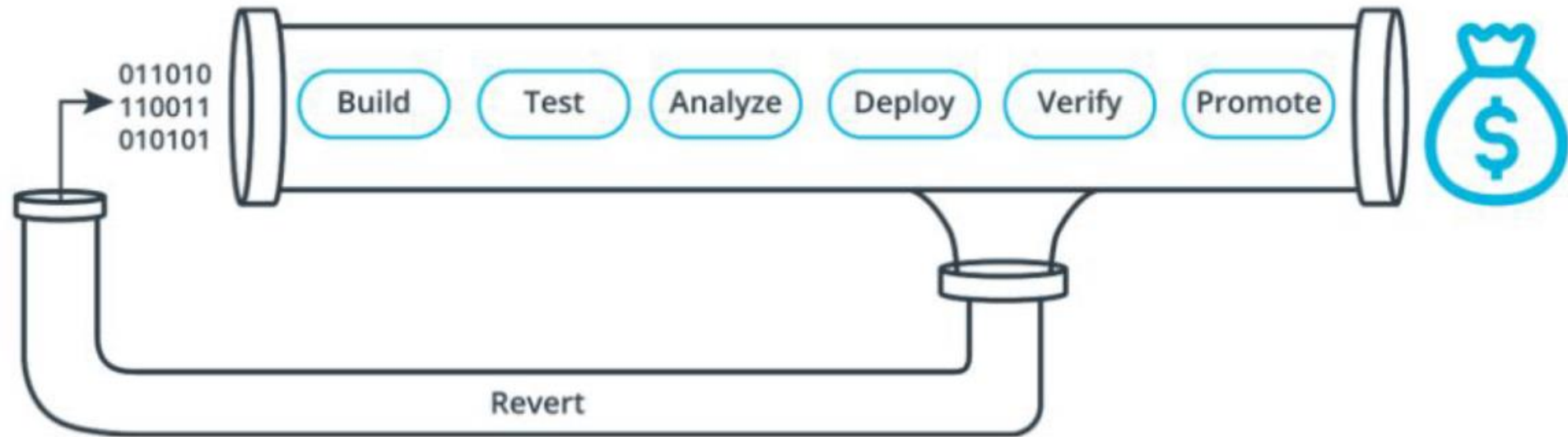


Promoting to  
Production



Celebration

# The CI-CD Pipeline



**Continuous Integration + Continuous Deployment = Continuous Delivery**

# Benefits of CI/CD

- Reduce or avoid manual test, thus, to be
- more productive and avoid costs
- Faster developments, less bugs
- Focus on improving features rather than code review
- Less time to market and increase revenue
- Rollback changes if anything goes wrong automatically
- Prevent embarrassing or costly security issues
- Less issues in prod, less time for testing
- Avoid losing revenue caused by bad deployment
- Maintain system stability and reliability
- Make infrastructure inactive when not required which helps to reduce cost