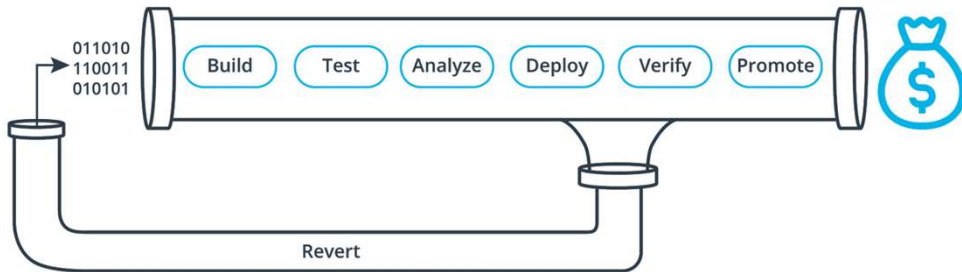# What is CI/CD?

The CI/CD Pipeline

Continuous Integration + Continuous Deployment = Continuous Delivery

Continuous Integration:
- A practice in which multiple developers push small, frequent changes to a shared repository, integrating changes continuously rather than periodically
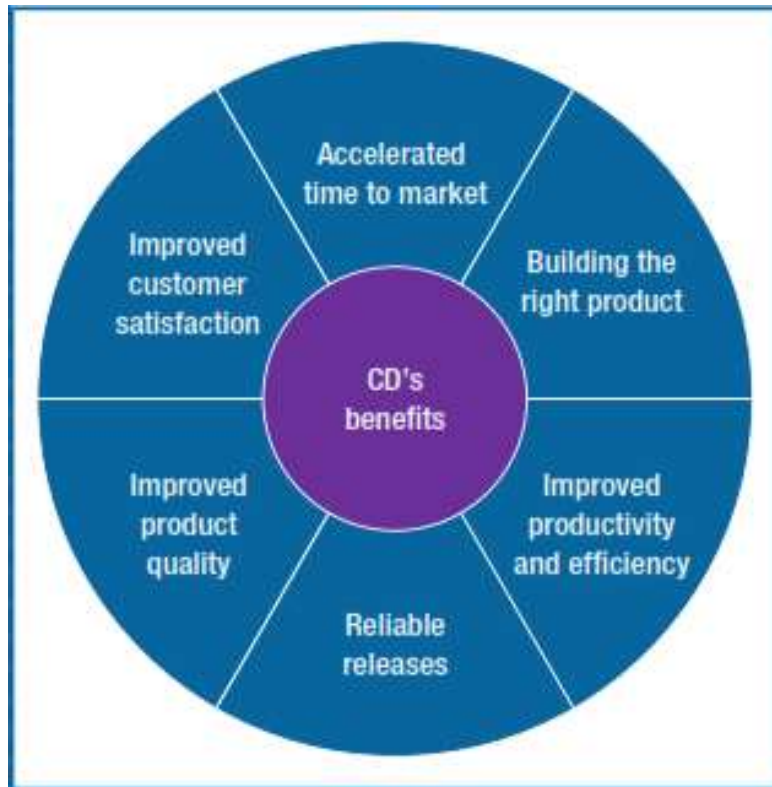
Continuous Deployment:
- A software release process that uses automated testing to validate if changes to a codebase are correct and stable for immediate autonomous deployment to a production environment

Continuous Delivery:
- An overarching paradigm or mindset that informs and enhances the practices of Continuous Integration and Continuous Delivery

Benefits of CI/CD

Some benefits are:

- Smaller code changes
- Error Isolation
- Reduced deploy errors
- More reliable tests
- Faster release rate
- Increase accountability and transparency
- Smaller backlog
- Faster error resolution time
- Customer satisfaction
- Team satisfaction
- Easy maintenance and updates

What do all these mean?

Avoid Costs by:
- Less time fixing bugs in production and less time in testing
- Preventing embarrassing or costly security holes
- Less human error
- Faster deployments

Reduce Costs by:
- Less infrastructure cost from unused resources
- Less time spent on manual deployments

Increase Revenue by:
- Releasing new value-generating features more quickly
- Less time to market for faster customer experience

Protect Revenue by:
- Reducing downtime from a deploy-related crash or major bug
- Quickly undoing to return production to working state