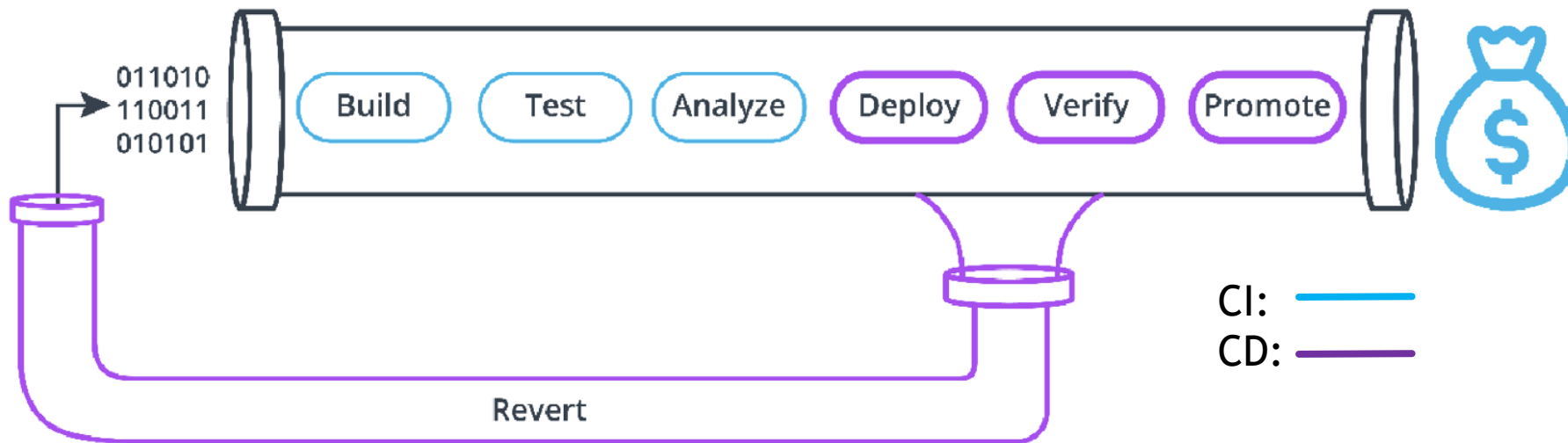# Fundamentals and Benefits of CI/CD

What is CI/CD

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

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

Benefits of CI/CD

- Developers spend less time on issues from new developer code
- Fewer errors in production and less time spent on testing
- Less human error, faster deployment
- Less time to market
- Reduce downtime due to major deployment-related problems or errors

Benefits of CI/CD

	Mannual	With CI/CD
Time to production	3 weeks	1.5 weeks
Rollback rate	6 out of 10 executions	2 out of 10 executions
Time to failure	2 days	10 minutes
Production uptime	2 hours	10 minutes