

CI/CD

Continuous Integration/Continuous Deployment

WHAT IS CI/CD?

Continuous Integration

is a [DevOps](#) software development practice where developers regularly merge their code changes into a central repository, after which automated builds and tests are run.

Continuous Integration

is a strategy in software development where code changes to an application are released automatically into the production environment. This automation is driven by a series of predefined tests. Once new updates pass those tests, the system pushes the updates directly to the software's users.

Continuous Delivery =
Continuous Integration + Continuous Integration

Continuous Delivery

is a software engineering approach in which teams produce software in short cycles

SOME BENEFITS OF CI/CD

1. Reduced time-to-market

The ultimate goal of a CI/CD pipeline is to build and deliver software to users at a rapid pace.

2. Automate Infrastructure Cleanup:

Less infrastructure costs from unused resources.

⇒ Reduce costs

3. Automate Infrastructure Creation:

Less human error, Faster deployments

⇒ Avoid Cost

4. Catch Unit Test Failures:

Less bugs in production and less time in testing

⇒ Avoid Cost

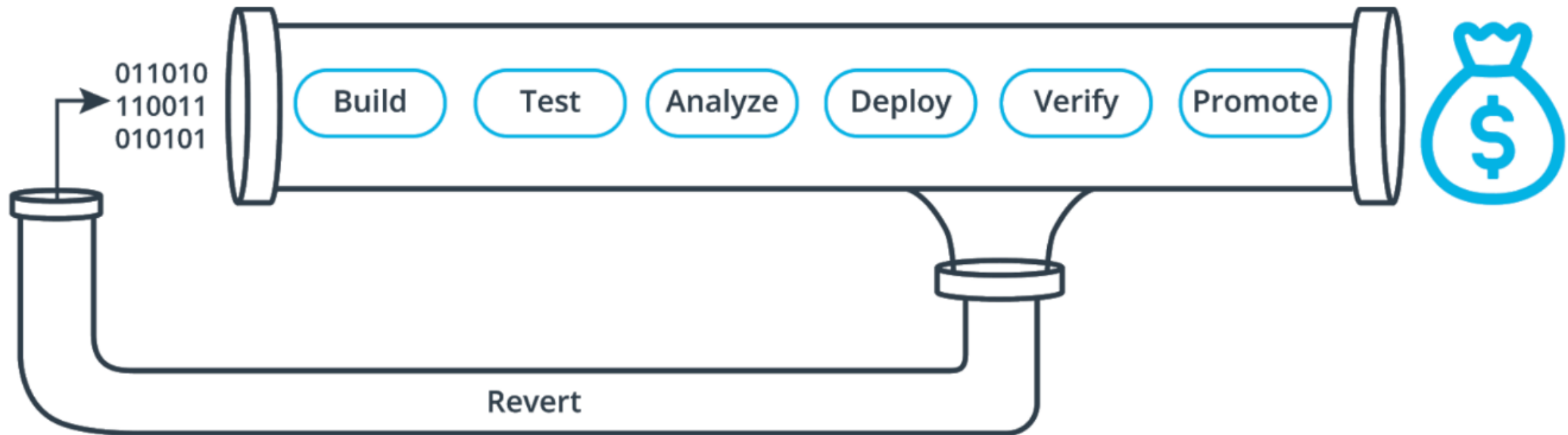
5. Faster and More Frequent Production Deployments :

New value-generating features released more quickly

⇒ Increase Revenue

CI/CD PIPELINE

The CI/CD Pipeline



STAGES OF CI/CD PIPELINE

Stage	Description
Build	Compiling The project code
Test	Run automated tests that verify at the code level and are required to pass
Analyze	Any static analysis on the code or checking of dependencies.
Deploy	creating server instances or copying pre-built application files to an instance.
Verify	Verify Make sure the deployed version of the code is working as intended .
Promote	Promote the project , Switch the currently publicly available version with the newly deployed version
Revert	Destroy the new version of the project and rolling back changes made